

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: P685493

Luminaire Tested: **4CZL-16-UNV-W-L840-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685493  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-W-L840-CD-U  
Description: METALUX CRUZE LINEAR 4FT WIDE LENS MODEL @80 CRI and 4000K  
Light Source: (588) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

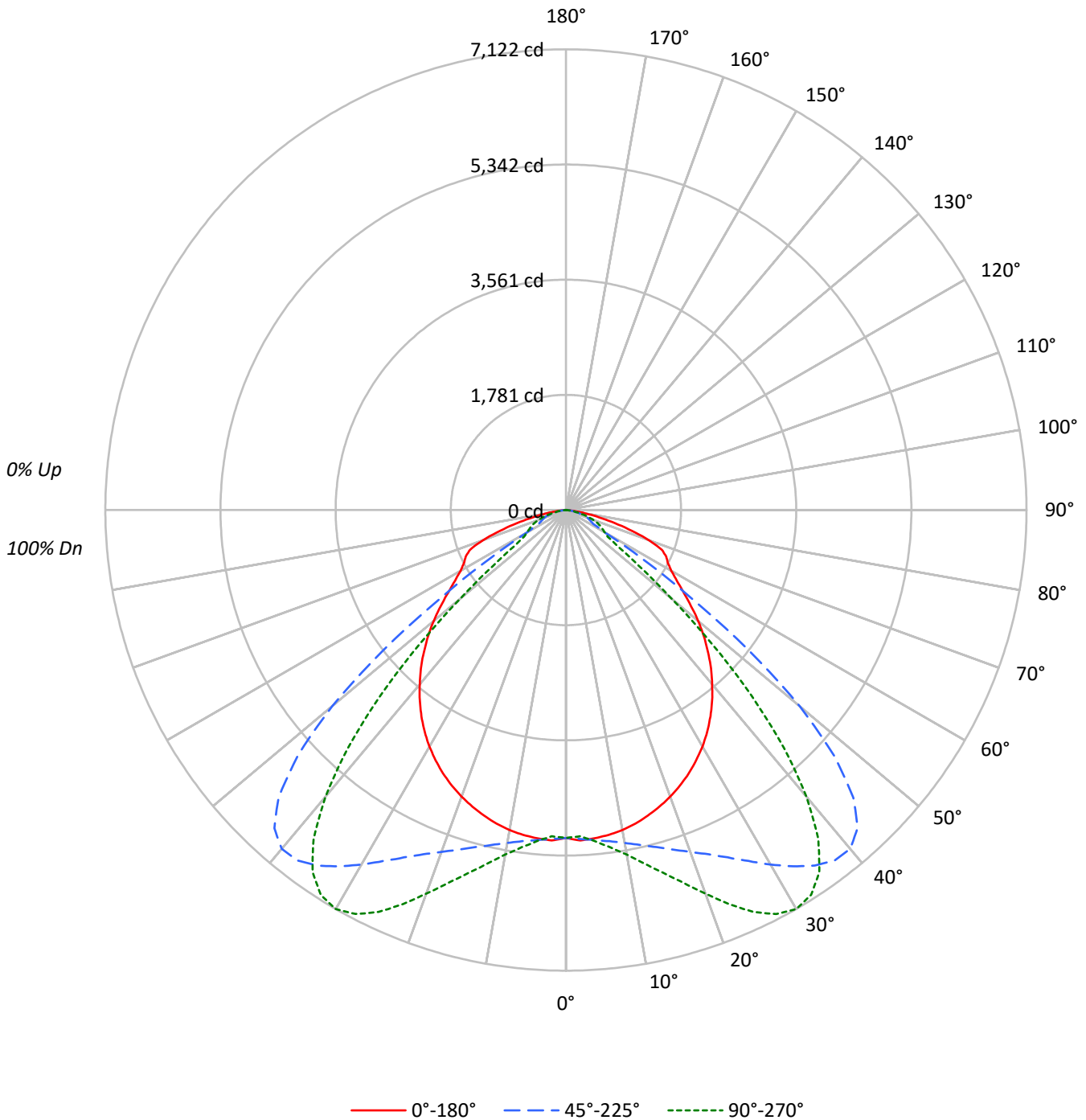
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16212.2 lumens  
Efficiency: N/A  
Efficacy: 157.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.69 / 1.65  
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			
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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65
4	86	75	67	61	84	73	66	60	71	65	59	69	63	59	67	62	58	56	56	56
5	79	67	59	52	77	66	58	52	64	57	52	62	56	51	60	55	51	49	49	49
6	73	60	52	46	71	59	51	46	58	51	45	56	50	45	55	49	45	43	43	43
7	68	55	46	40	66	54	46	40	52	45	40	51	45	40	50	44	39	38	38	38
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35	33	33	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30	30	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27	27	27

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

	0°	45°	90°
0°	16369	16369	16369
5°	16512	16597	16649
10°	16471	17130	17731
15°	16351	18037	19410
20°	16208	19322	21684
25°	16014	21113	24423
30°	15740	23594	26558
35°	15356	26445	26924
40°	14823	28813	24392
45°	14183	28703	18513
50°	13415	23722	10670
55°	12503	13049	5487
60°	12135	4553	4474
65°	13077	3313	4484
70°	12913	3395	4327
75°	9764	2968	3475
80°	5901	2425	2458
85°	2938	1241	522



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	490.6	3.0
10°-20°	1525.5	9.4
20°-30°	2679.9	16.5
30°-40°	3723.0	23.0
40°-50°	3775.6	23.3
50°-60°	2422.9	14.9
60°-70°	1133.3	7.0
70°-80°	393.0	2.4
80°-90°	68.5	0.4
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°	4696.0	29.0
0°-40°	8419.0	51.9
0°-60°	14617.5	90.2
0°-90°	16212.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16212.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5069	5069	5069	5069	5069	
5°	5094	5058	5120	5136	5136	484
15°	4891	5007	5395	5685	5806	1380
25°	4494	4955	5926	6619	6855	2069
35°	3895	4997	6708	6939	6830	2433
45°	3106	5349	6285	4688	4054	2394
55°	2221	5525	2318	1116	975	2004
65°	1711	1765	434	543	587	1665
75°	783	271	238	274	278	847
85°	79	71	34	19	14	120
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°	5069.1	5069.1	5069.1	5069.1	5069.1	5069.1	5069.1	5069.1	5069.1	5069.1	5069.1
2.5°	5113.2	5097.3	5070.9	5060.3	5065.6	5092.0	5100.8	5081.5	5076.2	5062.1	5048.0
5°	5093.8	5079.7	5060.3	5056.8	5076.2	5120.2	5139.6	5134.3	5143.1	5144.9	5136.1
7.5°	5065.6	5053.3	5037.4	5053.3	5093.8	5164.3	5208.4	5222.5	5254.2	5261.2	5259.5
10°	5023.3	5012.7	5007.4	5048.0	5118.5	5224.2	5301.8	5340.6	5386.4	5402.2	5407.5
12.5°	4966.9	4956.3	4970.4	5040.9	5152.0	5303.5	5418.1	5486.8	5552.1	5585.5	5596.1
15°	4891.1	4887.6	4922.8	5035.6	5194.3	5395.2	5553.8	5661.3	5754.8	5791.8	5805.9
17.5°	4808.3	4810.0	4873.5	5033.9	5245.4	5502.7	5705.4	5858.7	5973.3	6026.2	6042.0
20°	4716.6	4721.9	4817.1	5032.1	5308.8	5622.6	5872.8	6073.8	6216.5	6287.0	6310.0
22.5°	4609.1	4619.7	4755.4	5033.9	5375.8	5760.0	6070.3	6310.0	6480.9	6565.5	6593.7
25°	4494.5	4510.4	4691.9	5042.7	5460.4	5925.7	6295.9	6576.1	6748.8	6822.9	6854.6
27.5°	4362.3	4388.8	4623.2	5055.0	5560.9	6117.8	6526.8	6796.4	6956.8	7013.2	7041.4
30°	4221.3	4251.3	4556.2	5079.7	5691.3	6327.6	6740.0	6967.4	7074.9	7106.6	7122.5
32.5°	4066.2	4115.6	4489.2	5120.2	5844.6	6530.3	6896.9	7032.6	7059.0	7048.5	7053.8
35°	3895.3	3948.1	4425.8	5187.2	6019.1	6708.3	6958.6	6958.6	6881.0	6833.4	6829.9
37.5°	3713.7	3780.7	4362.3	5264.8	6221.8	6826.4	6891.6	6717.1	6528.5	6426.3	6410.4
40°	3516.3	3606.2	4318.3	5370.5	6405.1	6835.2	6651.9	6292.3	5971.5	5805.9	5786.5
42.5°	3320.7	3431.7	4298.9	5508.0	6542.6	6673.0	6200.7	5645.5	5210.1	5014.5	4993.3
45°	3105.6	3251.9	4305.9	5696.6	6579.6	6285.3	5529.1	4810.0	4321.8	4075.0	4053.9
47.5°	2892.4	3073.9	4323.6	5909.9	6417.5	5627.8	4635.5	3803.6	3318.9	3059.8	3056.3
50°	2670.3	2906.5	4365.9	6084.4	5978.6	4721.9	3537.5	2724.9	2337.2	2139.7	2123.9
52.5°	2439.4	2760.2	4457.5	6116.1	5197.8	3558.6	2400.6	1819.0	1566.9	1441.8	1417.1
55°	2220.8	2636.8	4607.3	5830.5	4075.0	2317.8	1512.3	1147.4	1020.5	969.4	974.7
57.5°	2032.2	2545.1	4781.8	5085.0	2645.6	1364.2	876.0	763.2	759.7	765.0	766.7
60°	1878.9	2488.7	4859.4	3814.2	1452.3	705.0	611.6	636.3	669.8	689.2	692.7
62.5°	1778.4	2458.8	4623.2	2210.2	645.1	491.8	534.1	579.9	618.7	636.3	638.0
65°	1711.4	2379.5	3782.4	1092.8	394.8	433.6	486.5	534.1	569.3	583.4	586.9
67.5°	1607.5	2155.6	2592.7	453.0	347.2	391.3	442.4	488.2	518.2	528.8	530.5
70°	1367.7	1804.9	1507.0	301.4	313.7	359.6	400.1	435.4	454.7	460.0	458.3
72.5°	1068.1	1429.4	761.4	273.2	290.8	315.5	338.4	357.8	368.4	373.7	373.7
75°	782.6	1045.2	357.8	241.5	216.8	237.9	260.9	273.2	276.7	278.5	278.5
77.5°	525.2	720.9	213.3	186.8	167.4	185.1	193.9	188.6	185.1	188.6	188.6
80°	317.3	444.2	186.8	135.7	128.7	130.4	123.4	123.4	130.4	134.0	132.2
82.5°	171.0	252.0	163.9	98.7	86.4	79.3	77.6	74.0	70.5	68.7	68.7
85°	79.3	128.7	105.8	59.9	45.8	33.5	26.4	19.4	17.6	14.1	14.1
87.5°	31.7	49.4	31.7	19.4	10.6	7.1	5.3	3.5	1.8	1.8	1.8
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)