

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: P685421

Luminaire Tested: **4CZL-9-UNV-M-L835-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685421
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-9-UNV-M-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 3500K
Light Source: (588) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

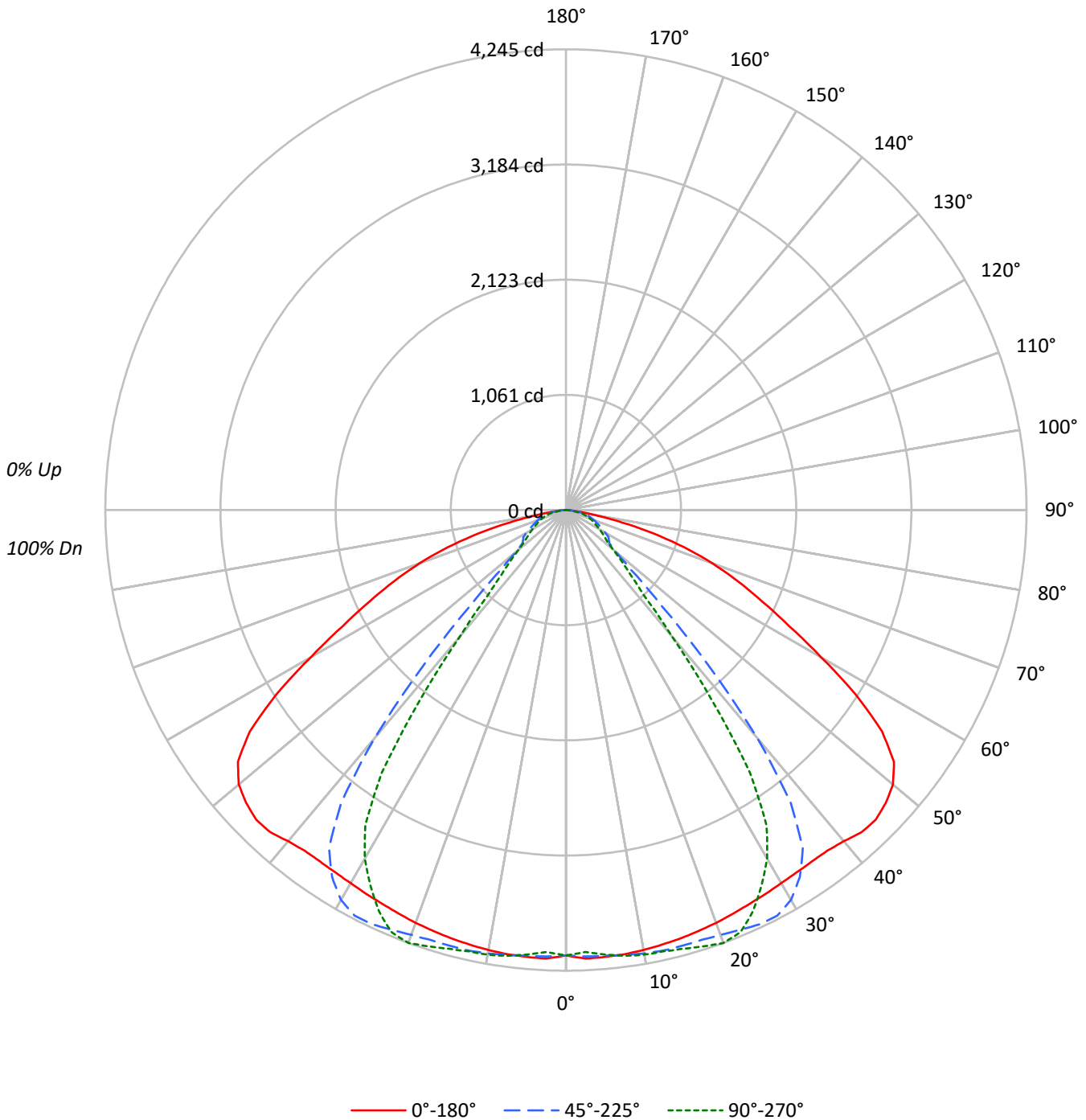
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8866.7 lumens
Efficiency: N/A
Efficacy: 164.2 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): 54
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77
3	95	86	80	74	93	85	79	73	82	77	72	79	75	71	77	73	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	53
6	76	65	57	51	75	64	56	51	62	55	51	61	55	50	59	54	50	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	36
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13253	13253	13253
5°	13401	13363	13326
10°	13499	13604	13642
15°	13659	13893	13990
20°	13910	14317	14587
25°	14266	15014	14533
30°	14803	15466	13825
35°	15581	15003	11675
40°	16792	11570	6385
45°	18436	5688	3816
50°	19768	2973	2845
55°	20021	2713	2456
60°	17558	2705	2315
65°	15279	2599	2242
70°	13558	2633	2257
75°	10401	2704	2291
80°	5294	2747	1897
85°	2090	1549	541



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.2	4.4
10°-20°	1172.0	13.2
20°-30°	1891.5	21.3
30°-40°	2215.2	25.0
40°-50°	1508.0	17.0
50°-60°	873.2	9.8
60°-70°	499.2	5.6
70°-80°	257.0	2.9
80°-90°	57.2	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°	3456.8	39.0
0°-40°	5672.0	64.0
0°-60°	8053.2	90.8
0°-90°	8866.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8866.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4104	4104	4104	4104	4104	
5°	4134	4094	4122	4118	4111	394
15°	4086	4080	4156	4166	4185	1157
25°	4004	4060	4214	4149	4079	1853
35°	3952	4148	3806	3209	2962	2488
45°	4037	3004	1246	839	836	3101
55°	3556	1031	482	449	436	3098
65°	2000	368	340	300	293	2005
75°	834	227	217	189	184	886
85°	56	69	42	19	15	95
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°	4104.1	4104.1	4104.1	4104.1	4104.1	4104.1	4104.1	4104.1	4104.1	4104.1	4104.1
2.5°	4137.1	4125.4	4102.1	4092.4	4092.4	4117.7	4121.6	4106.0	4103.1	4089.5	4076.9
5°	4134.2	4122.5	4100.2	4091.4	4094.3	4122.5	4129.3	4116.7	4120.6	4116.7	4110.9
7.5°	4128.4	4115.7	4095.3	4089.5	4098.2	4134.2	4145.8	4139.0	4147.8	4145.8	4143.9
10°	4116.7	4107.0	4087.5	4086.6	4104.1	4148.8	4163.3	4154.6	4157.5	4156.5	4160.4
12.5°	4101.2	4092.4	4075.9	4084.6	4109.9	4157.5	4167.2	4153.6	4157.5	4158.5	4165.3
15°	4085.6	4074.9	4064.2	4084.6	4110.9	4155.6	4165.3	4163.3	4175.0	4176.0	4184.7
17.5°	4066.2	4059.4	4056.5	4083.7	4104.1	4153.6	4176.0	4187.6	4203.2	4207.1	4215.8
20°	4047.7	4041.9	4048.7	4078.8	4101.2	4166.2	4197.3	4214.8	4231.3	4236.2	4244.9
22.5°	4025.4	4021.5	4039.9	4072.0	4106.0	4185.7	4220.7	4222.6	4215.8	4203.2	4209.0
25°	4004.0	4004.0	4031.2	4070.1	4120.6	4213.9	4216.8	4161.4	4111.8	4078.8	4078.8
27.5°	3986.5	3990.4	4024.4	4078.8	4148.8	4215.8	4135.2	4025.4	3952.5	3904.9	3902.0
30°	3970.0	3976.8	4024.4	4103.1	4169.2	4147.8	3991.4	3858.2	3757.2	3711.5	3707.7
32.5°	3958.3	3969.0	4041.9	4140.0	4144.9	4010.8	3806.8	3638.7	3519.2	3451.1	3439.5
35°	3952.5	3965.1	4074.9	4172.1	4046.7	3805.8	3516.2	3256.8	3067.4	2979.9	2961.5
37.5°	3956.4	3978.7	4120.6	4144.9	3800.9	3402.6	2986.7	2614.6	2354.2	2271.6	2214.3
40°	3983.6	4021.5	4156.5	3923.3	3285.0	2744.8	2193.9	1793.6	1613.8	1554.6	1514.7
42.5°	4029.3	4067.1	4062.3	3416.2	2566.0	1950.0	1413.7	1173.7	1086.3	1076.5	1058.1
45°	4037.0	4051.6	3757.2	2752.6	1866.5	1245.6	910.4	839.5	837.5	844.3	835.6
47.5°	3996.2	3968.0	3317.1	2105.5	1285.4	805.5	685.0	696.6	702.5	697.6	690.8
50°	3935.0	3831.0	2823.5	1547.8	857.0	591.7	597.5	608.2	587.8	574.2	566.4
52.5°	3810.6	3608.5	2275.5	1096.9	592.7	505.2	551.9	520.8	491.6	483.9	482.9
55°	3556.1	3278.2	1750.8	790.9	452.8	481.9	490.7	450.8	442.1	438.2	436.3
57.5°	3168.4	2867.2	1316.5	571.3	397.4	465.4	426.5	411.0	402.2	399.3	396.4
60°	2718.6	2407.6	981.3	419.7	385.7	418.8	386.7	372.1	362.4	358.5	358.5
62.5°	2320.2	1992.8	725.8	341.0	382.8	378.0	348.8	333.3	327.4	325.5	323.5
65°	1999.6	1603.2	523.7	315.8	357.6	340.1	311.9	301.2	297.3	293.4	293.4
67.5°	1713.9	1255.3	385.7	309.9	328.4	306.1	284.7	275.9	271.1	270.1	269.1
70°	1436.0	925.0	293.4	303.1	311.9	278.9	258.4	247.8	241.9	239.0	239.0
72.5°	1143.6	634.5	234.2	278.9	285.7	246.8	226.4	218.6	213.8	210.8	209.9
75°	833.6	398.4	206.0	234.2	245.8	216.7	196.3	189.5	187.5	184.6	183.6
77.5°	530.5	238.0	175.9	191.4	201.1	182.7	167.1	158.4	157.4	154.5	153.5
80°	284.7	152.5	140.9	150.6	156.4	147.7	129.2	111.7	106.9	103.0	102.0
82.5°	132.1	97.2	104.9	113.7	116.6	94.2	77.7	70.0	65.1	60.2	57.3
85°	56.4	52.5	65.1	70.0	57.3	41.8	27.2	20.4	16.5	15.5	14.6
87.5°	20.4	20.4	24.3	16.5	9.7	7.8	7.8	6.8	5.8	4.9	4.9
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)