

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: P685731

Luminaire Tested: **4CZL-9-UNV-N-LVR-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685731
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-9-UNV-N-LVR-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

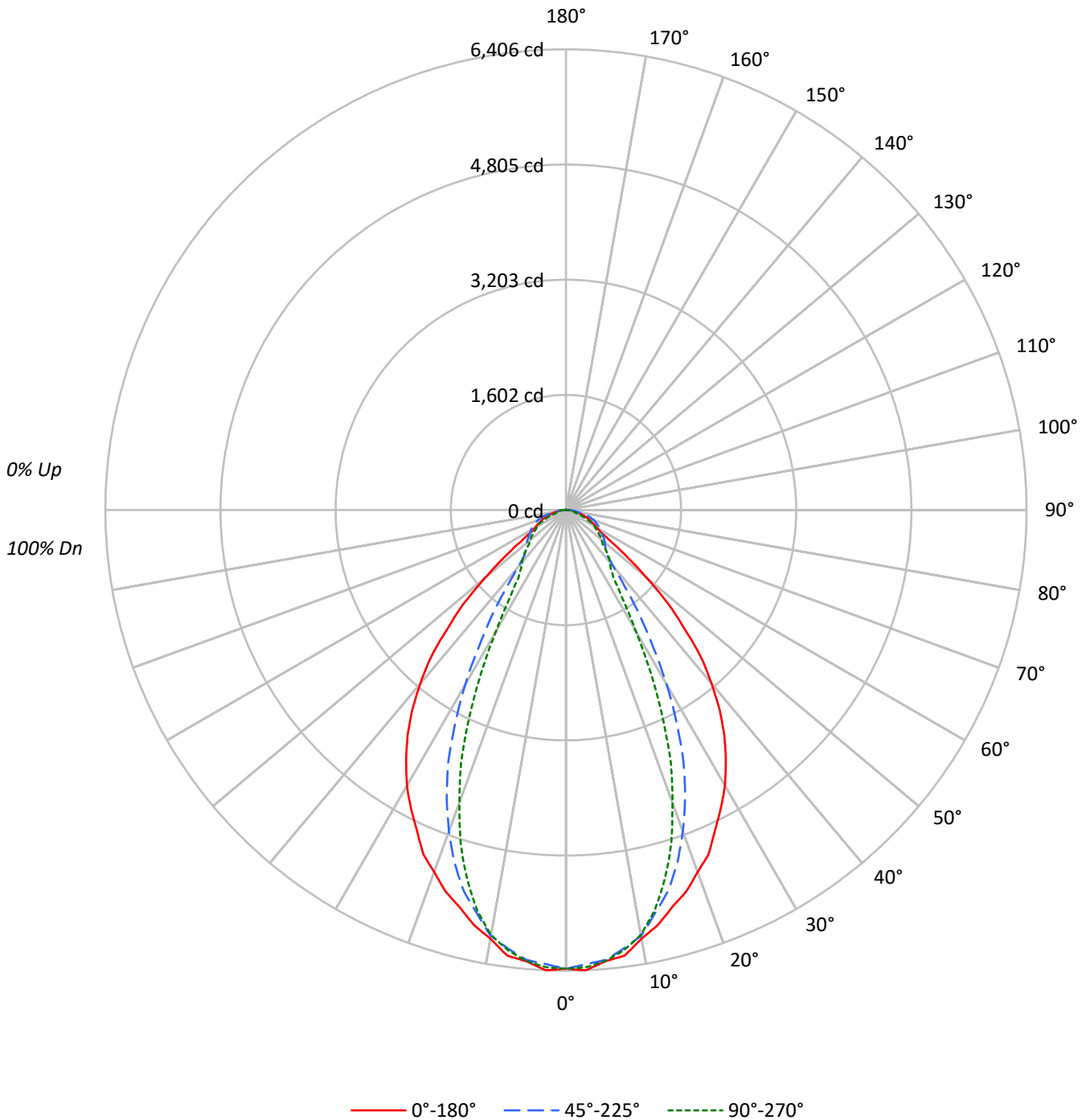
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7552.1 lumens
Efficiency: N/A
Efficacy: 139.9 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): 54
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°	20597	20597	20597
5°	20415	20357	20410
10°	19840	19717	19669
15°	19104	18341	17760
20°	18400	16339	14874
25°	17485	13796	11341
30°	16493	10436	7246
35°	15138	7075	4553
40°	13277	4310	3994
45°	10637	3591	3579
50°	7355	3548	3231
55°	4333	3517	3042
60°	3229	3654	3005
65°	3056	3679	2643
70°	2939	3924	1995
75°	2771	3938	1706
80°	2572	3265	1930
85°	2282	3964	2382



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	592.5	7.8
10°-20°	1534.2	20.3
20°-30°	1792.3	23.7
30°-40°	1329.7	17.6
40°-50°	881.5	11.7
50°-60°	584.6	7.7
60°-70°	436.2	5.8
70°-80°	257.4	3.4
80°-90°	108.4	1.4
90°-100°	23.4	0.3
100°-110°	3.2	0.0
110°-120°	1.6	0.0
120°-130°	1.5	0.0
130°-140°	1.4	0.0
140°-150°	1.5	0.0
150°-160°	1.3	0.0
160°-170°	1.0	0.0
170°-180°	0.4	0.0
0°-30°	3919.0	51.9
0°-40°	5248.7	69.5
0°-60°	6714.8	88.9
0°-90°	7516.9	99.5
90°-120°	28.2	0.4
90°-150°	32.6	0.4
90°-180°	35.0	0.5
0°-180°	7552.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6378	6378	6378	6378	6378	
5°	6298	6293	6280	6303	6296	596
15°	5714	5646	5486	5392	5312	1612
25°	4908	4555	3872	3321	3183	2260
35°	3840	2845	1795	1213	1155	2384
45°	2329	1374	786	816	784	1793
55°	770	676	625	603	540	757
65°	400	447	482	471	346	399
75°	222	249	316	229	137	234
85°	62	75	107	142	64	66
90°	1	23	54	92	19	4
95°	0	4	21	46	10	0
105°	0	1	2	4	3	1
115°	0	1	2	2	2	0
125°	1	1	2	2	2	1
135°	1	2	2	2	2	1
145°	2	2	2	3	3	1
155°	2	3	3	3	3	1
165°	3	3	3	4	4	1
175°	3	3	4	4	5	0
180°	4	4	4	4	4	



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CATALOG NUMBER: 4CZL-9-UNV-N-LVR-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6378.5	6378.5	6378.5	6378.5	6378.5
2.5°	6406.1	6371.5	6321.8	6366.7	6362.9
5°	6298.0	6292.6	6280.2	6302.9	6296.4
7.5°	6249.4	6220.2	6151.0	6204.5	6174.3
10°	6050.5	6016.5	6013.2	6002.4	5998.6
12.5°	5909.5	5868.4	5737.1	5730.0	5700.9
15°	5714.4	5646.3	5486.3	5391.7	5312.3
17.5°	5563.1	5415.0	5148.0	4971.8	4869.7
20°	5354.5	5191.2	4754.6	4447.1	4328.2
22.5°	5182.6	4893.5	4332.0	3896.9	3815.3
25°	4907.5	4554.6	3872.1	3321.4	3183.1
27.5°	4668.7	4181.7	3329.5	2725.3	2555.6
30°	4423.3	3764.0	2798.8	2140.6	1943.3
32.5°	4137.4	3343.0	2252.5	1606.1	1463.4
35°	3840.2	2845.3	1794.7	1213.2	1154.9
37.5°	3512.7	2397.8	1348.9	1013.3	1023.0
40°	3149.6	2007.6	1022.5	929.0	947.4
42.5°	2787.5	1679.1	850.6	873.9	879.3
45°	2329.2	1374.3	786.3	816.0	783.6
47.5°	1928.7	1123.0	740.9	737.7	691.7
50°	1464.0	915.5	706.3	667.4	643.1
52.5°	1084.1	772.3	673.4	630.7	605.8
55°	769.6	676.1	624.7	603.1	540.4
57.5°	578.2	608.0	587.4	538.8	495.0
60°	499.9	548.0	565.8	508.0	465.3
62.5°	451.2	496.6	530.7	489.6	425.8
65°	399.9	446.9	481.5	470.7	345.9
67.5°	355.1	407.5	450.2	403.7	282.6
70°	311.3	359.9	415.6	342.6	211.3
72.5°	264.3	301.0	368.0	266.4	154.0
75°	222.1	248.6	315.6	229.1	136.7
77.5°	177.8	200.0	216.2	208.6	120.5
80°	138.3	160.5	175.6	189.7	103.8
82.5°	100.5	115.1	139.4	168.1	86.5
85°	61.6	75.1	107.0	142.1	64.3
87.5°	26.5	45.9	78.4	117.8	42.2
90°	1.1	22.7	53.5	91.9	18.9
92.5°	0.5	9.7	34.6	67.6	12.4
95°	0.5	3.8	21.1	45.9	9.7
97.5°	0.5	1.6	10.8	29.7	7.0
100°	0.5	1.1	5.9	17.3	4.9
102.5°	0.5	1.1	2.7	8.6	3.8
105°	0.5	1.1	2.2	3.8	3.2
107.5°	0.5	1.1	1.6	2.7	2.7
110°	0.5	1.1	1.6	2.7	2.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	1.1	1.6	2.7	2.7
115°	0.5	1.1	1.6	2.2	2.2
117.5°	0.5	1.1	1.6	2.2	2.2
120°	0.5	1.1	1.6	2.2	2.2
122.5°	0.5	1.1	1.6	2.2	2.2
125°	1.1	1.1	1.6	2.2	2.2
127.5°	1.1	1.6	1.6	2.2	2.2
130°	1.1	1.6	1.6	2.2	2.2
132.5°	1.1	1.6	1.6	2.2	2.2
135°	1.1	1.6	1.6	2.2	2.2
137.5°	1.1	1.6	2.2	2.2	2.2
140°	1.6	2.2	2.2	2.2	2.2
142.5°	1.6	2.2	2.2	2.7	2.2
145°	1.6	2.2	2.2	2.7	2.7
147.5°	1.6	2.2	2.7	2.7	2.7
150°	1.6	2.2	2.7	3.2	3.2
152.5°	2.2	2.2	2.7	3.2	3.2
155°	2.2	2.7	2.7	3.2	3.2
157.5°	2.2	2.7	2.7	3.2	3.8
160°	2.2	2.7	3.2	3.8	3.8
162.5°	2.2	2.7	3.2	3.8	3.8
165°	2.7	3.2	3.2	3.8	3.8
167.5°	2.7	3.2	3.8	3.8	4.3
170°	2.7	3.2	3.8	4.3	4.3
172.5°	2.7	3.2	3.8	4.3	4.3
175°	2.7	3.2	3.8	4.3	4.9
177.5°	2.7	3.2	3.8	4.3	4.9
180°	3.8	3.8	3.8	3.8	3.8

(END OF REPORT)