

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: P685733

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685733
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-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

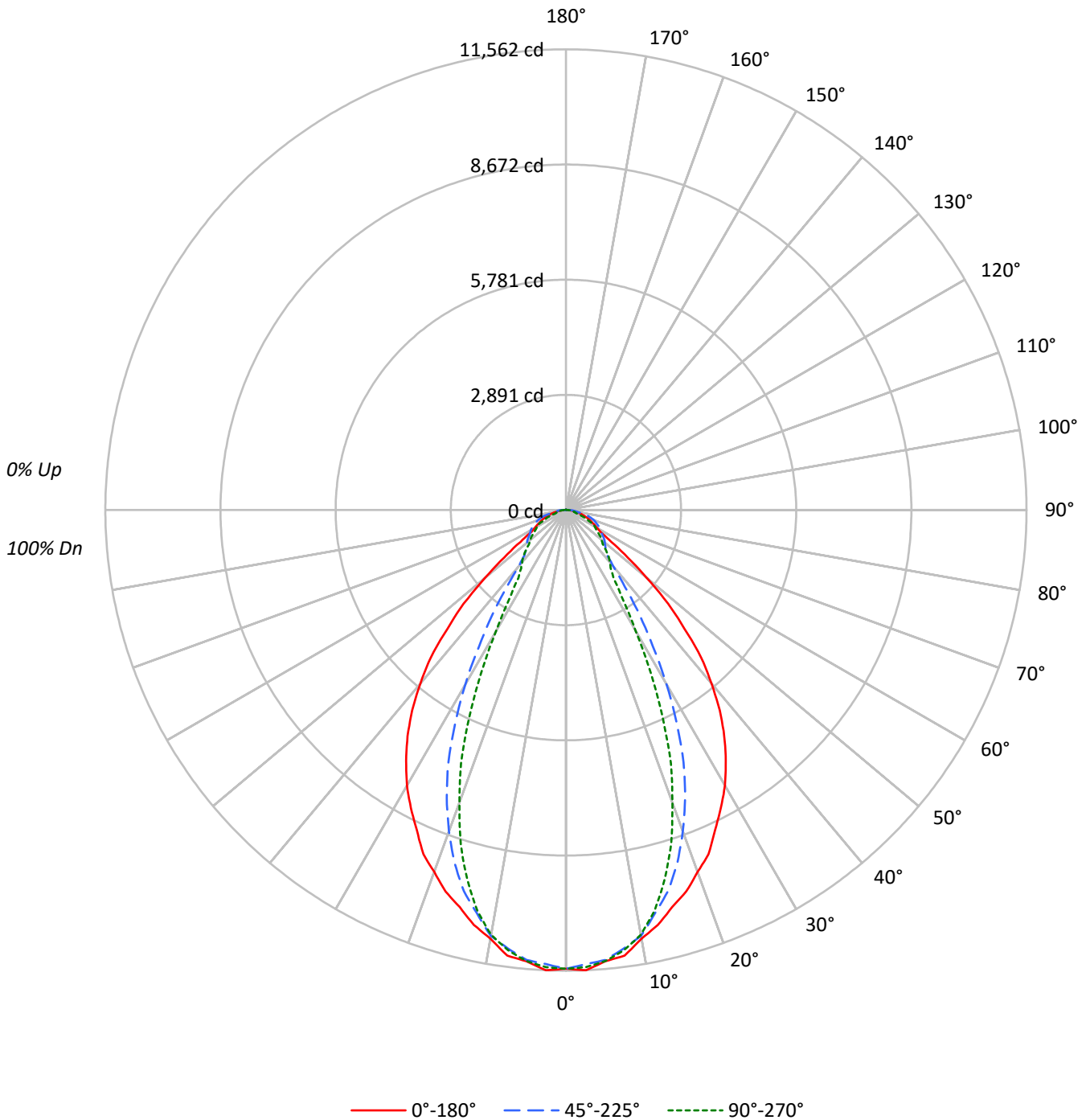
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13629.9 lumens
Efficiency: N/A
Efficacy: 132.3 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	100	100	100	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88	88	88	88
2	103	97	92	87	101	95	90	86	92	88	84	88	85	82	86	83	80	78	78	78	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70	70	70	70
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	63	63	63	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	58	58	58	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	55	53	53	53	53
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	49	49	49	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45	45	45	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	42	42	42	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39	39	39	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	37174	37174	37174
5°	36845	36740	36835
10°	35806	35585	35499
15°	34478	33102	32052
20°	33208	29488	26843
25°	31558	24899	20468
30°	29767	18835	13078
35°	27322	12769	8217
40°	23961	7779	7207
45°	19197	6481	6458
50°	13274	6404	5831
55°	7819	6348	5491
60°	5827	6595	5424
65°	5514	6640	4769
70°	5304	7081	3601
75°	5002	7107	3079
80°	4643	5895	3483
85°	4120	7155	4302



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1069.4	7.8
10°-20°	2768.9	20.3
20°-30°	3234.7	23.7
30°-40°	2399.8	17.6
40°-50°	1590.9	11.7
50°-60°	1055.1	7.7
60°-70°	787.2	5.8
70°-80°	464.6	3.4
80°-90°	195.7	1.4
90°-100°	42.3	0.3
100°-110°	5.7	0.0
110°-120°	2.9	0.0
120°-130°	2.7	0.0
130°-140°	2.6	0.0
140°-150°	2.6	0.0
150°-160°	2.4	0.0
160°-170°	1.7	0.0
170°-180°	0.6	0.0
0°-30°	7073.0	51.9
0°-40°	9472.8	69.5
0°-60°	12118.8	88.9
0°-90°	13566.3	99.5
90°-120°	50.9	0.4
90°-150°	58.8	0.4
90°-180°	64.0	0.5
0°-180°	13629.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11512	11512	11512	11512	11512	
5°	11366	11357	11334	11375	11364	1075
15°	10313	10190	9902	9731	9588	2909
25°	8857	8220	6988	5994	5745	4080
35°	6931	5135	3239	2190	2084	4302
45°	4204	2480	1419	1473	1414	3236
55°	1389	1220	1128	1088	975	1367
65°	722	807	869	850	624	720
75°	401	449	570	414	247	423
85°	111	136	193	256	116	120
90°	2	41	97	166	34	7
95°	1	7	38	83	18	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°	11511.9	11511.9	11511.9	11511.9	11511.9
2.5°	11561.6	11499.2	11409.4	11490.4	11483.6
5°	11366.5	11356.8	11334.3	11375.3	11363.6
7.5°	11278.8	11226.1	11101.2	11197.8	11143.2
10°	10919.8	10858.4	10852.5	10833.0	10826.2
12.5°	10665.3	10591.1	10354.1	10341.5	10288.8
15°	10313.2	10190.3	9901.6	9730.9	9587.5
17.5°	10040.1	9772.8	9291.0	8973.1	8788.7
20°	9663.6	9369.1	8581.0	8026.0	7811.4
22.5°	9353.4	8831.6	7818.3	7033.1	6885.9
25°	8857.0	8220.1	6988.3	5994.4	5744.7
27.5°	8425.9	7547.1	6009.0	4918.6	4612.4
30°	7983.1	6793.2	5051.3	3863.3	3507.3
32.5°	7467.2	6033.4	4065.2	2898.7	2641.2
35°	6930.7	5135.1	3239.1	2189.6	2084.3
37.5°	6339.7	4327.6	2434.4	1828.7	1846.3
40°	5684.2	3623.4	1845.3	1676.6	1709.8
42.5°	5030.8	3030.4	1535.2	1577.1	1586.9
45°	4203.7	2480.3	1419.1	1472.8	1414.2
47.5°	3481.0	2026.7	1337.2	1331.3	1248.4
50°	2642.2	1652.2	1274.8	1204.5	1160.6
52.5°	1956.5	1393.8	1215.3	1138.2	1093.3
55°	1388.9	1220.1	1127.5	1088.5	975.3
57.5°	1043.6	1097.2	1060.2	972.4	893.4
60°	902.2	989.0	1021.2	916.8	839.8
62.5°	814.4	896.3	957.8	883.7	768.6
65°	721.7	806.6	869.0	849.5	624.2
67.5°	640.8	735.4	812.5	728.6	510.1
70°	561.8	649.6	750.0	618.4	381.4
72.5°	476.9	543.3	664.2	480.8	278.0
75°	400.9	448.7	569.6	413.5	246.8
77.5°	320.9	360.9	390.1	376.5	217.5
80°	249.7	289.7	317.0	342.3	187.3
82.5°	181.4	207.7	251.6	303.3	156.1
85°	111.2	135.6	193.1	256.5	116.1
87.5°	47.8	82.9	141.4	212.6	76.1
90°	2.0	41.0	96.6	165.8	34.1
92.5°	1.0	17.6	62.4	121.9	22.4
95°	1.0	6.8	38.0	82.9	17.6
97.5°	1.0	2.9	19.5	53.6	12.7
100°	1.0	2.0	10.7	31.2	8.8
102.5°	1.0	2.0	4.9	15.6	6.8
105°	1.0	2.0	3.9	6.8	5.9
107.5°	1.0	2.0	2.9	4.9	4.9
110°	1.0	2.0	2.9	4.9	4.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	2.0	2.9	4.9	4.9
115°	1.0	2.0	2.9	3.9	3.9
117.5°	1.0	2.0	2.9	3.9	3.9
120°	1.0	2.0	2.9	3.9	3.9
122.5°	1.0	2.0	2.9	3.9	3.9
125°	2.0	2.0	2.9	3.9	3.9
127.5°	2.0	2.9	2.9	3.9	3.9
130°	2.0	2.9	2.9	3.9	3.9
132.5°	2.0	2.9	2.9	3.9	3.9
135°	2.0	2.9	2.9	3.9	3.9
137.5°	2.0	2.9	3.9	3.9	3.9
140°	2.9	3.9	3.9	3.9	3.9
142.5°	2.9	3.9	3.9	4.9	3.9
145°	2.9	3.9	3.9	4.9	4.9
147.5°	2.9	3.9	4.9	4.9	4.9
150°	2.9	3.9	4.9	5.9	5.9
152.5°	3.9	3.9	4.9	5.9	5.9
155°	3.9	4.9	4.9	5.9	5.9
157.5°	3.9	4.9	4.9	5.9	6.8
160°	3.9	4.9	5.9	6.8	6.8
162.5°	3.9	4.9	5.9	6.8	6.8
165°	4.9	5.9	5.9	6.8	6.8
167.5°	4.9	5.9	6.8	6.8	7.8
170°	4.9	5.9	6.8	7.8	7.8
172.5°	4.9	5.9	6.8	7.8	7.8
175°	4.9	5.9	6.8	7.8	8.8
177.5°	4.9	5.9	6.8	7.8	8.8
180°	6.8	6.8	6.8	6.8	6.8

(END OF REPORT)