

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: P685673

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685673
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-LVR-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

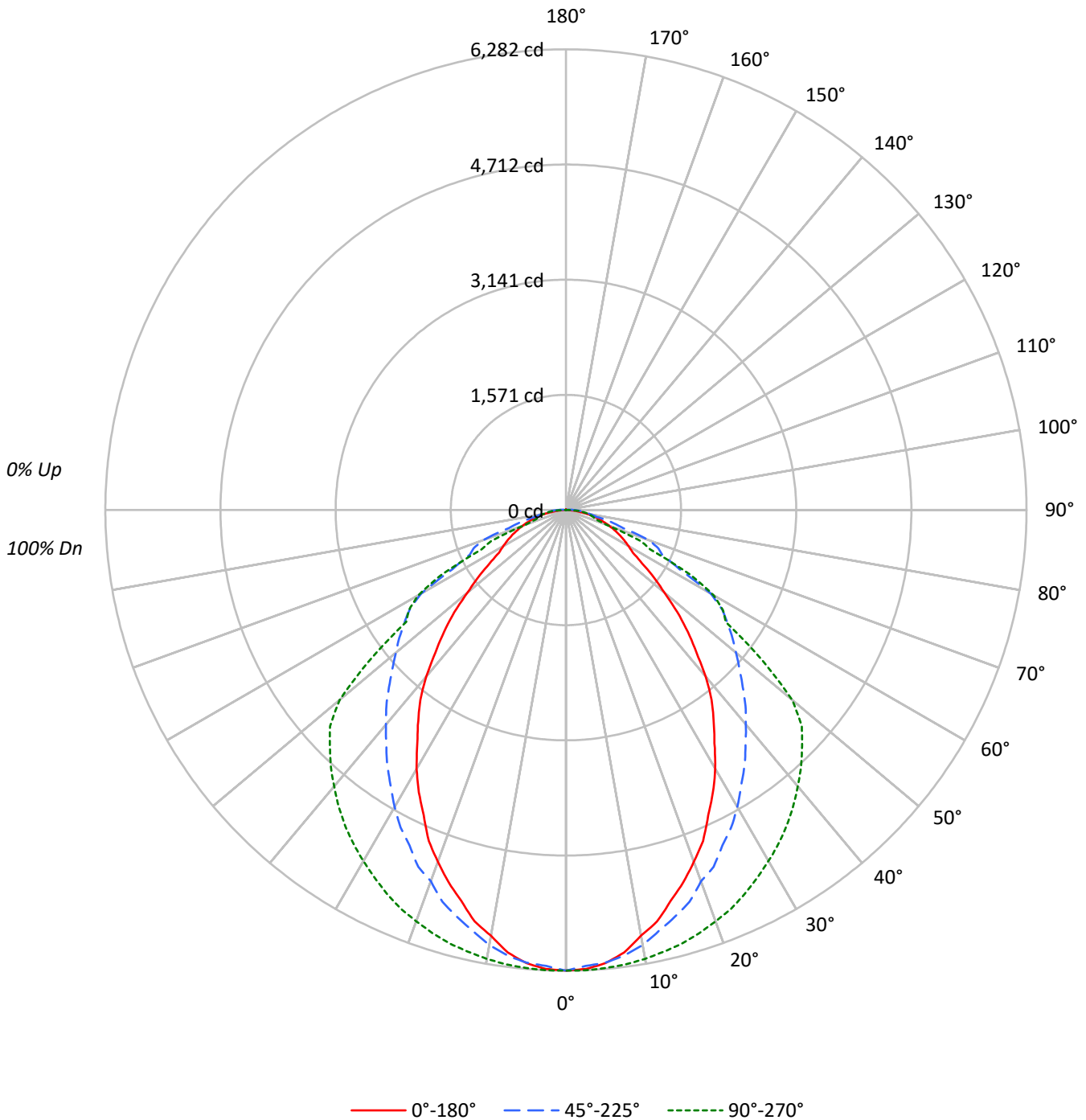
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14223.8 lumens
Efficiency: N/A
Efficacy: 138.1 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.31 / 1.26
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

TEST NUMBER: P685673
CATALOG NUMBER: 4CZL-16-UNV-LVR-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685673
 CATALOG NUMBER: 4CZL-16-UNV-LVR-L840-CD-U

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	88	88	88	85
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	75	75	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	65	65	65	63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	60	56	56	56	56	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	49	49	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	44	44	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	39	39	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	35	35	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	32	32	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	29	29	29	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20282	20282	20282
5°	20106	20078	20318
10°	19325	19750	20377
15°	18447	19197	20459
20°	17541	18516	20507
25°	16359	17982	20575
30°	15188	17429	20608
35°	13847	16746	20702
40°	12492	16094	20740
45°	10744	15577	20793
50°	8781	15210	20248
55°	7150	15151	14976
60°	6375	14728	15025
65°	6164	11053	9689
70°	5922	11328	5507
75°	5708	7984	4917
80°	5205	6494	5860
85°	4661	8096	7299



TEST NUMBER: P685673
 CATALOG NUMBER: 4CZL-16-UNV-LVR-L840-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	588.3	4.1
10°-20°	1630.9	11.5
20°-30°	2359.5	16.6
30°-40°	2693.0	18.9
40°-50°	2646.1	18.6
50°-60°	2110.7	14.8
60°-70°	1329.5	9.3
70°-80°	589.0	4.1
80°-90°	225.9	1.6
90°-100°	44.8	0.3
100°-110°	3.0	0.0
110°-120°	0.4	0.0
120°-130°	0.4	0.0
130°-140°	0.7	0.0
140°-150°	0.6	0.0
150°-160°	0.5	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	4578.6	32.2
0°-40°	7271.6	51.1
0°-60°	12028.4	84.6
0°-90°	14172.7	99.6
90°-120°	48.2	0.3
90°-150°	49.9	0.4
90°-180°	51.0	0.4
0°-180°	14223.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6281	6281	6281	6281	6281	
5°	6203	6216	6194	6246	6268	582
15°	5518	5572	5742	6012	6120	1553
25°	4591	4740	5047	5509	5774	2116
35°	3512	3725	4248	4874	5252	2196
45°	2353	2695	3411	4175	4553	1808
55°	1270	1720	2691	2902	2660	1168
65°	807	1098	1446	1541	1268	799
75°	458	529	640	485	394	480
85°	126	153	218	282	197	133
90°	1	53	115	168	32	7
95°	1	8	48	82	11	1
105°	1	1	1	3	0	1
115°	1	1	0	0	0	1
125°	1	2	0	0	0	1
135°	1	2	1	0	0	1
145°	2	2	1	0	0	1
155°	2	2	1	0	0	1
165°	3	3	2	1	0	1
175°	3	3	2	1	1	0
180°	2	2	2	2	2	



TEST NUMBER: P685673

CATALOG NUMBER: 4CZL-16-UNV-LVR-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6280.7	6280.7	6280.7	6280.7	6280.7
2.5°	6264.1	6260.2	6222.2	6275.8	6281.7
5°	6202.7	6216.3	6193.9	6245.6	6268.0
7.5°	6084.6	6099.3	6125.6	6220.2	6247.5
10°	5893.5	5930.5	6023.2	6155.8	6214.4
12.5°	5747.1	5793.0	5875.9	6101.2	6168.5
15°	5517.9	5572.5	5742.3	6011.5	6119.8
17.5°	5322.8	5422.3	5602.8	5898.3	6049.5
20°	5104.3	5184.3	5388.2	5787.1	5967.6
22.5°	4885.9	4987.3	5265.3	5638.9	5884.7
25°	4591.3	4739.5	5046.8	5509.1	5774.5
27.5°	4341.6	4528.9	4882.0	5356.0	5651.6
30°	4073.3	4218.7	4674.2	5199.9	5526.7
32.5°	3771.0	3999.2	4449.8	5021.4	5396.0
35°	3512.5	3725.1	4247.9	4874.1	5251.6
37.5°	3262.8	3462.7	4024.6	4707.4	5091.7
40°	2963.3	3226.7	3817.8	4517.1	4920.0
42.5°	2631.7	2954.5	3625.6	4337.7	4745.4
45°	2352.7	2695.1	3411.0	4174.8	4553.2
47.5°	2063.0	2423.9	3210.1	3976.8	4363.0
50°	1747.9	2186.9	3027.7	3793.4	4030.4
52.5°	1517.7	1940.1	2863.8	3461.7	3397.4
55°	1270.0	1719.7	2691.2	2901.9	2660.0
57.5°	1081.7	1520.7	2529.3	2278.6	2539.0
60°	987.1	1361.7	2280.5	2169.3	2326.4
62.5°	898.4	1222.2	1744.0	2034.7	1913.8
65°	806.7	1098.3	1446.5	1541.2	1268.0
67.5°	717.9	991.0	1363.6	1151.0	1104.2
70°	627.2	908.1	1199.8	981.3	583.3
72.5°	541.4	812.5	820.3	543.3	433.1
75°	457.5	528.7	639.9	484.8	394.1
77.5°	365.8	453.6	428.2	434.1	357.0
80°	279.9	312.1	349.2	388.2	315.1
82.5°	198.0	232.1	282.9	339.4	258.5
85°	125.8	153.1	218.5	281.9	197.0
87.5°	49.7	96.6	162.9	227.3	116.1
90°	1.0	52.7	115.1	167.8	32.2
92.5°	1.0	24.4	77.1	122.9	16.6
95°	1.0	7.8	47.8	81.9	10.7
97.5°	1.0	2.9	25.4	50.7	5.9
100°	1.0	1.0	10.7	27.3	2.9
102.5°	1.0	1.0	3.9	10.7	1.0
105°	1.0	1.0	1.0	2.9	0.0
107.5°	1.0	1.0	0.0	0.0	0.0
110°	1.0	1.0	0.0	0.0	0.0



TEST NUMBER: P685673
CATALOG NUMBER: 4CZL-16-UNV-LVR-L840-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	0.0	0.0	0.0
115°	1.0	1.0	0.0	0.0	0.0
117.5°	1.0	1.0	0.0	0.0	0.0
120°	1.0	1.0	0.0	0.0	0.0
122.5°	1.0	1.0	0.0	0.0	0.0
125°	1.0	2.0	0.0	0.0	0.0
127.5°	1.0	1.0	0.0	0.0	0.0
130°	1.0	2.0	1.0	0.0	0.0
132.5°	1.0	2.0	1.0	0.0	0.0
135°	1.0	2.0	1.0	0.0	0.0
137.5°	1.0	2.0	1.0	0.0	0.0
140°	2.0	2.0	1.0	0.0	0.0
142.5°	2.0	2.0	1.0	0.0	0.0
145°	2.0	2.0	1.0	0.0	0.0
147.5°	2.0	2.0	1.0	0.0	0.0
150°	2.0	2.0	1.0	0.0	0.0
152.5°	2.0	2.0	1.0	0.0	0.0
155°	2.0	2.0	1.0	0.0	0.0
157.5°	2.0	2.9	1.0	0.0	0.0
160°	2.9	2.9	1.0	0.0	0.0
162.5°	2.9	2.9	2.0	1.0	0.0
165°	2.9	2.9	2.0	1.0	0.0
167.5°	2.9	2.9	2.0	1.0	0.0
170°	2.9	2.9	2.0	1.0	1.0
172.5°	2.9	2.9	2.0	1.0	1.0
175°	2.9	2.9	2.0	1.0	1.0
177.5°	2.9	2.9	2.0	1.0	1.0
180°	2.0	2.0	2.0	2.0	2.0

(END OF REPORT)