

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: P685793

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685793
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-M-LVR-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

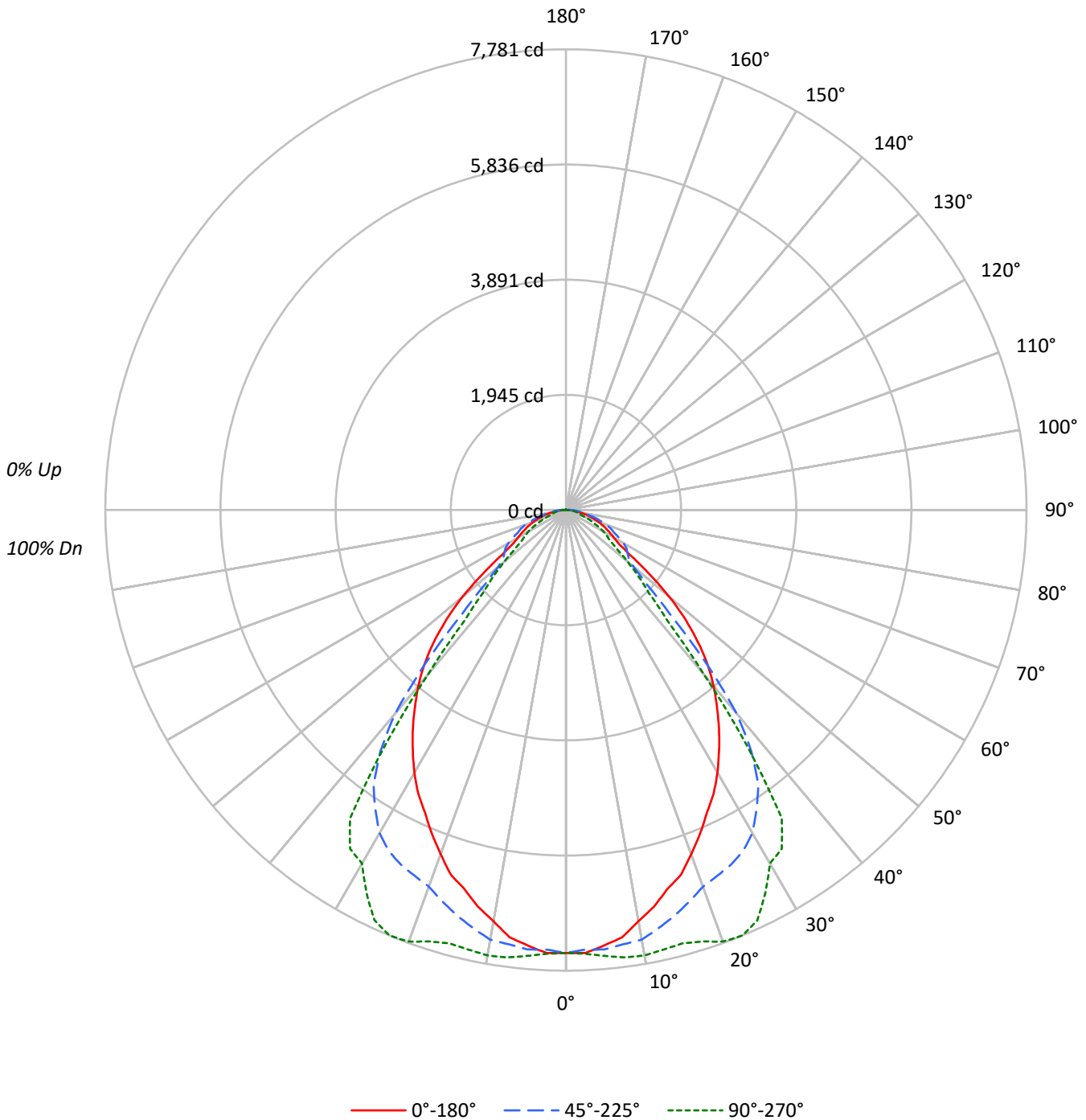
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13837.5 lumens
Efficiency: N/A
Efficacy: 134.3 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.34 / 1.2
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

TEST NUMBER: P685793
CATALOG NUMBER: 4CZL-16-UNV-M-LVR-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685793

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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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88
2	103	96	90	86	100	94	89	84	91	86	83	87	84	81	84	81	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	70	66	62	60
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	54
6	77	65	58	52	75	65	57	52	63	56	51	61	55	51	60	55	51	49
7	72	60	53	47	70	59	52	47	58	51	47	57	51	46	55	50	46	44
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24155	24155	24155
5°	23932	24146	24507
10°	23121	24160	25043
15°	22148	23710	25337
20°	21254	23259	26654
25°	20080	23535	27247
30°	19087	23484	25699
35°	17772	22332	25059
40°	16360	18930	15271
45°	14415	11283	9051
50°	11442	7492	6831
55°	7408	7128	5184
60°	6048	7244	4762
65°	5761	6827	3891
70°	5470	6852	3076
75°	5197	6413	2860
80°	4807	6059	3210
85°	4302	7410	3938



TEST NUMBER: P685793
 CATALOG NUMBER: 4CZL-16-UNV-M-LVR-L840-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	709.8	5.1
10°-20°	2013.4	14.6
20°-30°	3036.2	21.9
30°-40°	3354.9	24.2
40°-50°	2103.5	15.2
50°-60°	1132.5	8.2
60°-70°	769.1	5.6
70°-80°	459.4	3.3
80°-90°	199.6	1.4
90°-100°	43.7	0.3
100°-110°	5.0	0.0
110°-120°	1.9	0.0
120°-130°	1.7	0.0
130°-140°	2.0	0.0
140°-150°	1.8	0.0
150°-160°	1.4	0.0
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	5759.5	41.6
0°-40°	9114.3	65.9
0°-60°	12350.3	89.3
0°-90°	13778.4	99.6
90°-120°	50.6	0.4
90°-150°	56.1	0.4
90°-180°	59.0	0.4
0°-180°	13837.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7480	7480	7480	7480	7480	
5°	7383	7395	7449	7537	7560	696
15°	6625	6857	7092	7435	7579	1870
25°	5636	5978	6605	7310	7647	2602
35°	4508	5038	5665	6094	6357	2813
45°	3156	3436	2471	2014	1982	2408
55°	1316	1376	1266	1095	921	1278
65°	754	829	894	726	509	746
75°	416	463	514	422	229	439
85°	116	142	200	263	106	125
90°	3	44	101	169	31	8
95°	1	7	40	87	16	1
105°	1	2	3	7	3	1
115°	1	2	2	2	2	1
125°	1	2	2	2	2	1
135°	2	2	3	3	3	1
145°	2	3	3	3	4	1
155°	3	3	3	3	3	1
165°	3	4	4	4	4	1
175°	4	4	4	5	5	0
180°	5	5	5	5	5	



TEST NUMBER: P685793

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7480.3	7480.3	7480.3	7480.3	7480.3
2.5°	7490.1	7469.6	7431.5	7499.8	7500.8
5°	7382.8	7395.4	7449.1	7536.9	7560.3
7.5°	7278.4	7327.2	7399.3	7611.0	7621.7
10°	7051.1	7152.6	7368.1	7572.0	7637.3
12.5°	6861.9	7012.1	7234.5	7502.7	7604.2
15°	6624.9	6857.0	7092.1	7435.4	7578.8
17.5°	6459.1	6645.4	6933.1	7404.2	7639.3
20°	6185.0	6447.4	6768.3	7425.7	7756.3
22.5°	5918.7	6237.7	6685.4	7433.5	7780.7
25°	5635.8	5978.2	6605.4	7309.6	7647.1
27.5°	5401.7	5688.5	6486.4	7051.1	7295.0
30°	5118.9	5456.4	6298.1	6656.1	6892.1
32.5°	4814.6	5242.7	5992.8	6353.7	6782.9
35°	4508.3	5037.9	5665.1	6094.3	6356.7
37.5°	4188.3	4869.2	5150.1	5219.3	5039.9
40°	3881.1	4634.1	4490.7	3820.6	3622.6
42.5°	3545.6	4128.8	3502.6	2628.7	2539.9
45°	3156.4	3436.3	2470.7	2014.2	1982.0
47.5°	2741.8	2660.9	1842.5	1683.5	1665.0
50°	2277.5	2127.3	1491.4	1485.5	1359.7
52.5°	1775.2	1689.4	1337.3	1288.5	1088.5
55°	1315.8	1376.3	1266.1	1095.4	920.8
57.5°	1053.4	1193.9	1216.3	956.9	823.2
60°	936.4	1044.6	1121.7	879.8	737.4
62.5°	839.8	925.7	1004.7	816.4	636.0
65°	754.0	829.1	893.5	725.7	509.2
67.5°	663.3	741.3	820.3	623.3	433.1
70°	579.4	662.3	725.7	553.0	325.8
72.5°	492.6	578.4	606.7	462.3	260.4
75°	416.5	463.3	514.0	422.3	229.2
77.5°	336.5	376.5	397.0	387.2	201.9
80°	258.5	290.7	325.8	352.1	172.6
82.5°	189.2	212.6	260.4	310.2	138.5
85°	116.1	142.4	200.0	263.4	106.3
87.5°	51.7	84.9	147.3	217.5	68.3
90°	2.9	43.9	101.4	168.7	31.2
92.5°	1.0	19.5	66.3	124.9	21.5
95°	1.0	6.8	40.0	86.8	15.6
97.5°	1.0	2.9	22.4	55.6	9.8
100°	1.0	2.0	10.7	32.2	6.8
102.5°	1.0	2.0	4.9	15.6	4.9
105°	1.0	2.0	2.9	6.8	2.9
107.5°	1.0	2.0	2.0	2.9	2.0
110°	1.0	2.0	2.0	2.0	2.0



TEST NUMBER: P685793
CATALOG NUMBER: 4CZL-16-UNV-M-LVR-L840-CD-U

CANDELA DISTRIBUTION (continued):

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

(END OF REPORT)