

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: P685433

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685433
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-M-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

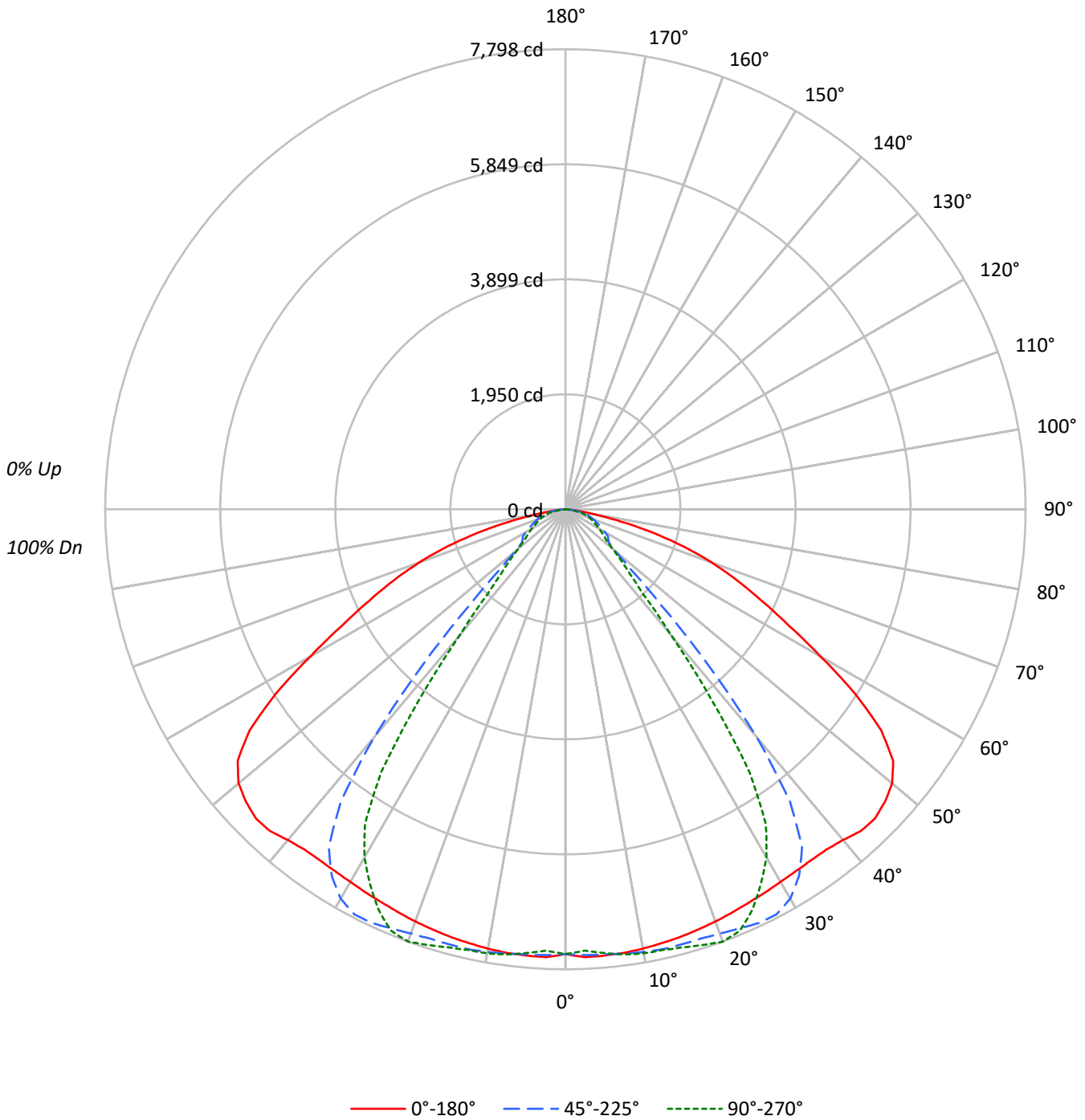
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16287.4 lumens
Efficiency: N/A
Efficacy: 158.1 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): 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

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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°	24345	24345	24345
5°	24617	24547	24478
10°	24796	24989	25059
15°	25090	25520	25698
20°	25551	26299	26796
25°	26206	27580	26696
30°	27192	28410	25395
35°	28621	27559	21445
40°	30846	21254	11729
45°	33866	10449	7010
50°	36313	5460	5227
55°	36776	4984	4512
60°	32252	4968	4253
65°	28066	4773	4118
70°	24906	4836	4146
75°	19105	4966	4208
80°	9724	5045	3485
85°	3835	2842	993



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	722.3	4.4
10°-20°	2152.9	13.2
20°-30°	3474.5	21.3
30°-40°	4069.2	25.0
40°-50°	2770.2	17.0
50°-60°	1604.0	9.8
60°-70°	917.1	5.6
70°-80°	472.0	2.9
80°-90°	105.1	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°	6349.8	39.0
0°-40°	10419.0	64.0
0°-60°	14793.2	90.8
0°-90°	16287.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16287.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7539	7539	7539	7539	7539	
5°	7594	7520	7573	7564	7551	724
15°	7505	7494	7634	7653	7687	2125
25°	7355	7459	7740	7621	7492	3404
35°	7260	7619	6991	5896	5440	4571
45°	7416	5518	2288	1541	1535	5697
55°	6532	1894	885	824	801	5692
65°	3673	676	625	552	539	3683
75°	1531	417	398	347	337	1628
85°	104	126	77	36	27	175
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°	7538.9	7538.9	7538.9	7538.9	7538.9	7538.9	7538.9	7538.9	7538.9	7538.9	7538.9
2.5°	7599.5	7578.1	7535.3	7517.4	7517.4	7563.8	7571.0	7542.4	7537.1	7512.1	7488.9
5°	7594.2	7572.8	7531.7	7515.7	7521.0	7572.8	7585.3	7562.1	7569.2	7562.1	7551.4
7.5°	7583.5	7560.3	7522.8	7512.1	7528.2	7594.2	7615.6	7603.1	7619.2	7615.6	7612.0
10°	7562.1	7544.2	7508.5	7506.7	7538.9	7621.0	7647.7	7631.7	7637.0	7635.2	7642.4
12.5°	7533.5	7517.4	7487.1	7503.2	7549.6	7637.0	7654.9	7629.9	7637.0	7638.8	7651.3
15°	7504.9	7485.3	7465.7	7503.2	7551.4	7633.5	7651.3	7647.7	7669.1	7670.9	7687.0
17.5°	7469.3	7456.8	7451.4	7501.4	7538.9	7629.9	7670.9	7692.3	7720.9	7728.0	7744.1
20°	7435.3	7424.6	7437.1	7492.5	7533.5	7653.1	7710.2	7742.3	7772.7	7781.6	7797.7
22.5°	7394.3	7387.2	7421.1	7480.0	7542.4	7688.8	7753.0	7756.6	7744.1	7720.9	7731.6
25°	7355.0	7355.0	7405.0	7476.4	7569.2	7740.5	7745.9	7644.2	7553.1	7492.5	7492.5
27.5°	7322.9	7330.0	7392.5	7492.5	7621.0	7744.1	7596.0	7394.3	7260.4	7173.0	7167.6
30°	7292.6	7305.1	7392.5	7537.1	7658.4	7619.2	7331.8	7087.3	6901.7	6817.8	6810.7
32.5°	7271.1	7290.8	7424.6	7604.9	7613.8	7367.5	6992.7	6684.0	6464.4	6339.5	6318.1
35°	7260.4	7283.6	7485.3	7663.8	7433.6	6990.9	6459.1	5982.5	5634.5	5473.9	5440.0
37.5°	7267.6	7308.6	7569.2	7613.8	6982.0	6250.3	5486.4	4802.8	4324.5	4172.8	4067.5
40°	7317.5	7387.2	7635.2	7206.9	6034.3	5042.0	4030.0	3294.7	2964.5	2855.6	2782.5
42.5°	7401.4	7471.0	7462.1	6275.2	4713.6	3582.0	2596.8	2156.0	1995.4	1977.5	1943.6
45°	7415.7	7442.5	6901.7	5056.2	3428.5	2288.1	1672.3	1542.0	1538.5	1551.0	1534.9
47.5°	7340.8	7289.0	6093.2	3867.6	2361.2	1479.6	1258.3	1279.7	1290.4	1281.5	1269.0
50°	7228.3	7037.3	5186.5	2843.1	1574.2	1086.9	1097.6	1117.3	1079.8	1054.8	1040.5
52.5°	6999.9	6628.6	4179.9	2015.0	1088.7	928.1	1013.7	956.6	903.1	888.8	887.0
55°	6532.3	6021.8	3216.2	1452.8	831.7	885.2	901.3	828.1	812.1	804.9	801.4
57.5°	5820.1	5266.8	2418.4	1049.4	730.0	854.9	783.5	755.0	738.9	733.5	728.2
60°	4993.8	4422.7	1802.6	771.0	708.6	769.2	710.3	683.6	665.7	658.6	658.6
62.5°	4262.0	3660.6	1333.2	626.5	703.2	694.3	640.7	612.2	601.5	597.9	594.3
65°	3673.1	2944.9	962.0	580.0	656.8	624.7	572.9	553.3	546.1	539.0	539.0
67.5°	3148.3	2305.9	708.6	569.3	603.3	562.2	522.9	506.9	498.0	496.2	494.4
70°	2637.9	1699.1	539.0	556.8	572.9	512.2	474.7	455.1	444.4	439.1	439.1
72.5°	2100.7	1165.5	430.1	512.2	524.7	453.3	415.9	401.6	392.6	387.3	385.5
75°	1531.3	731.8	378.4	430.1	451.5	398.0	360.5	348.0	344.5	339.1	337.3
77.5°	974.5	437.3	323.0	351.6	369.4	335.5	307.0	290.9	289.1	283.8	282.0
80°	522.9	280.2	258.8	276.6	287.3	271.3	237.4	205.2	196.3	189.2	187.4
82.5°	242.7	178.5	192.8	208.8	214.2	173.1	142.8	128.5	119.6	110.7	105.3
85°	103.5	96.4	119.6	128.5	105.3	76.7	50.0	37.5	30.3	28.6	26.8
87.5°	37.5	37.5	44.6	30.3	17.8	14.3	14.3	12.5	10.7	8.9	8.9
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)