

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: P685423

Luminaire Tested: **4CZL-16-UNV-M-L835-CD-U**

Issue Date: 05/10/2023

Test Information

Test Method: LM-79-08
Report Number: P685423
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-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 3500K
Light Source: (588) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

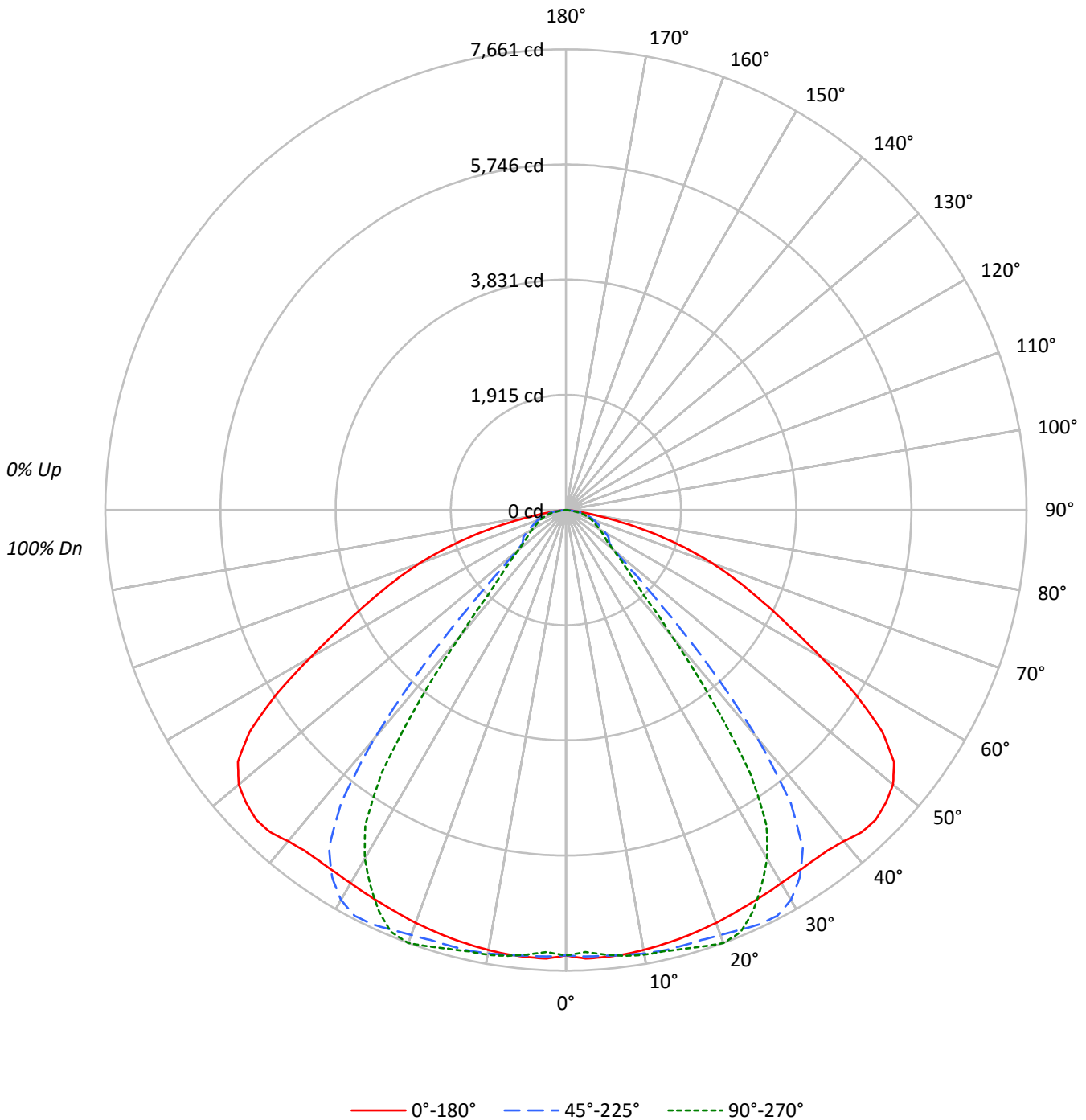
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16002.3 lumens
Efficiency: N/A
Efficacy: 155.4 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 (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	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	73	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	51	61	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	36
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	34	34	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23918	23918	23918
5°	24186	24118	24050
10°	24362	24552	24621
15°	24651	25073	25249
20°	25104	25839	26327
25°	25747	27097	26228
30°	26716	27913	24951
35°	28121	27077	21070
40°	30307	20882	11524
45°	33273	10266	6887
50°	35677	5365	5136
55°	36132	4897	4432
60°	31687	4881	4179
65°	27575	4689	4047
70°	24470	4752	4073
75°	18771	4878	4135
80°	9555	4956	3424
85°	3768	2794	974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	709.7	4.4
10°-20°	2115.2	13.2
20°-30°	3413.7	21.3
30°-40°	3998.0	25.0
40°-50°	2721.7	17.0
50°-60°	1575.9	9.8
60°-70°	901.0	5.6
70°-80°	463.7	2.9
80°-90°	103.3	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°	6238.7	39.0
0°-40°	10236.7	64.0
0°-60°	14534.3	90.8
0°-90°	16002.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16002.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7407	7407	7407	7407	7407	
5°	7461	7388	7440	7431	7419	711
15°	7374	7363	7500	7519	7552	2087
25°	7226	7328	7605	7488	7361	3345
35°	7133	7486	6869	5792	5345	4491
45°	7286	5421	2248	1514	1508	5597
55°	6418	1861	870	810	787	5592
65°	3609	664	614	542	530	3618
75°	1504	410	391	341	331	1599
85°	102	124	75	35	26	172
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°	7406.9	7406.9	7406.9	7406.9	7406.9	7406.9	7406.9	7406.9	7406.9	7406.9	7406.9
2.5°	7466.5	7445.5	7403.4	7385.9	7385.9	7431.5	7438.5	7410.4	7405.2	7380.6	7357.8
5°	7461.3	7440.2	7399.9	7384.1	7389.4	7440.2	7452.5	7429.7	7436.7	7429.7	7419.2
7.5°	7450.8	7428.0	7391.1	7380.6	7396.4	7461.3	7482.3	7470.1	7485.8	7482.3	7478.8
10°	7429.7	7412.2	7377.1	7375.4	7406.9	7487.6	7513.9	7498.1	7503.4	7501.6	7508.6
12.5°	7401.7	7385.9	7356.1	7371.9	7417.5	7503.4	7520.9	7496.4	7503.4	7505.1	7517.4
15°	7373.6	7354.3	7335.0	7371.9	7419.2	7499.9	7517.4	7513.9	7534.9	7536.7	7552.5
17.5°	7338.5	7326.3	7321.0	7370.1	7406.9	7496.4	7536.7	7557.7	7585.8	7592.8	7608.6
20°	7305.2	7294.7	7307.0	7361.3	7401.7	7519.2	7575.3	7606.8	7636.6	7645.4	7661.2
22.5°	7264.9	7257.9	7291.2	7349.1	7410.4	7554.2	7617.4	7620.9	7608.6	7585.8	7596.3
25°	7226.3	7226.3	7275.4	7345.6	7436.7	7605.1	7610.3	7510.4	7421.0	7361.3	7361.3
27.5°	7194.8	7201.8	7263.1	7361.3	7487.6	7608.6	7463.0	7264.9	7133.4	7047.5	7042.2
30°	7164.9	7177.2	7263.1	7405.2	7524.4	7485.8	7203.5	6963.3	6780.9	6698.5	6691.5
32.5°	7143.9	7163.2	7294.7	7471.8	7480.6	7238.6	6870.3	6567.0	6351.3	6228.6	6207.5
35°	7133.4	7156.2	7354.3	7529.7	7303.5	6868.6	6346.0	5877.8	5535.9	5378.1	5344.8
37.5°	7140.4	7180.7	7436.7	7480.6	6859.8	6140.9	5390.4	4718.8	4248.8	4099.8	3996.3
40°	7189.5	7257.9	7501.6	7080.8	5928.7	4953.7	3959.5	3237.0	2912.6	2805.7	2733.8
42.5°	7271.9	7340.3	7331.5	6165.4	4631.1	3519.3	2551.4	2118.3	1960.5	1942.9	1909.6
45°	7285.9	7312.2	6780.9	4967.8	3368.5	2248.0	1643.1	1515.1	1511.5	1523.8	1508.0
47.5°	7212.3	7161.4	5986.6	3799.9	2319.9	1453.7	1236.2	1257.3	1267.8	1259.0	1246.8
50°	7101.8	6914.2	5095.8	2793.4	1546.6	1067.9	1078.4	1097.7	1060.9	1036.3	1022.3
52.5°	6877.4	6512.6	4106.8	1979.7	1069.7	911.8	996.0	939.9	887.3	873.3	871.5
55°	6417.9	5916.4	3159.9	1427.4	817.1	869.8	885.5	813.6	797.9	790.8	787.3
57.5°	5718.3	5174.7	2376.0	1031.1	717.2	839.9	769.8	741.7	726.0	720.7	715.4
60°	4906.4	4345.3	1771.1	757.5	696.2	755.8	697.9	671.6	654.1	647.1	647.1
62.5°	4187.4	3596.5	1309.9	615.5	690.9	682.1	629.5	601.5	590.9	587.4	583.9
65°	3608.8	2893.3	945.2	569.9	645.3	613.7	562.9	543.6	536.6	529.6	529.6
67.5°	3093.2	2265.6	696.2	559.4	592.7	552.4	513.8	498.0	489.2	487.5	485.7
70°	2591.7	1669.4	529.6	547.1	562.9	503.3	466.4	447.2	436.6	431.4	431.4
72.5°	2063.9	1145.1	422.6	503.3	515.5	445.4	408.6	394.5	385.8	380.5	378.8
75°	1504.5	718.9	371.7	422.6	443.6	391.0	354.2	341.9	338.4	333.2	331.4
77.5°	957.4	429.6	317.4	345.4	363.0	329.7	301.6	285.8	284.1	278.8	277.1
80°	513.8	275.3	254.3	271.8	282.3	266.5	233.2	201.7	192.9	185.9	184.1
82.5°	238.5	175.4	189.4	205.2	210.4	170.1	140.3	126.3	117.5	108.7	103.5
85°	101.7	94.7	117.5	126.3	103.5	75.4	49.1	36.8	29.8	28.1	26.3
87.5°	36.8	36.8	43.8	29.8	17.5	14.0	14.0	12.3	10.5	8.8	8.8
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)