

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: P389109

Luminaire Tested: **22CZ2-110VHE-S-UNV-L930-CD2-SDWPD1-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P389109  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-110VHE-S-UNV-L930-CD2-SDWPD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9359.3 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

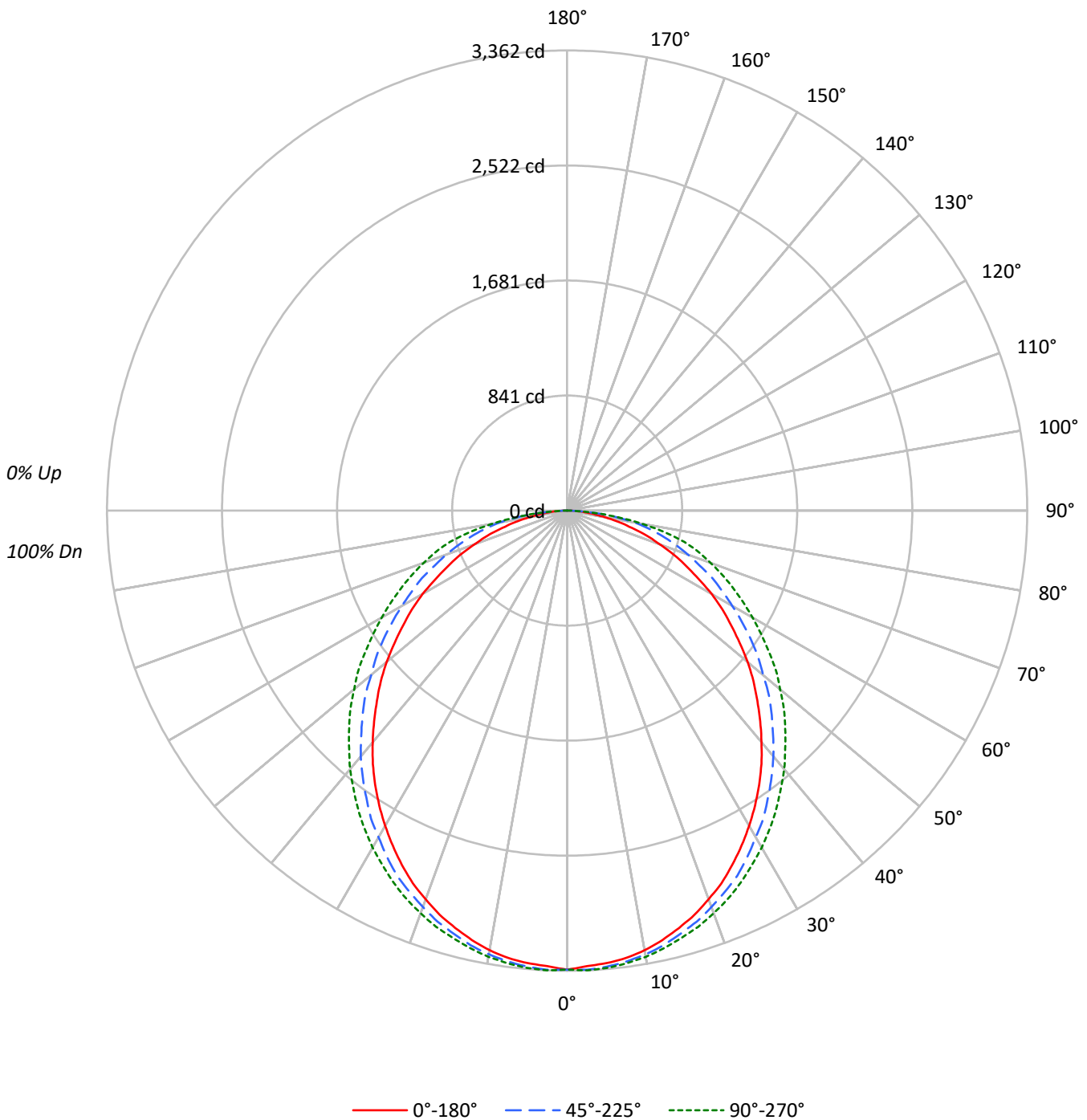
Input Watts (W): 87.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9025	9025	9025
5°	8965	9036	9059
10°	8913	8997	9045
15°	8796	8917	9003
20°	8653	8829	8966
25°	8480	8739	8907
30°	8263	8562	8833
35°	8033	8407	8751
40°	7762	8238	8667
45°	7478	8043	8575
50°	7203	7824	8501
55°	6863	7683	8441
60°	6557	7497	8414
65°	6117	7452	8509
70°	5635	7387	8761
75°	5085	7491	9217
80°	4398	7714	8663
85°	3640	6472	6472



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.2	3.4
10°-20°	902.6	9.6
20°-30°	1350.5	14.4
30°-40°	1599.3	17.1
40°-50°	1629.9	17.4
50°-60°	1460.8	15.6
60°-70°	1143.7	12.2
70°-80°	737.5	7.9
80°-90°	217.9	2.3
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°	2570.2	27.5
0°-40°	4169.5	44.5
0°-60°	7260.2	77.6
0°-90°	9359.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9359.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3354	3354	3354	3354	3354	
5°	3319	3328	3345	3349	3354	315
15°	3157	3175	3201	3227	3232	890
25°	2856	2882	2943	2982	3000	1315
35°	2445	2476	2559	2638	2664	1528
45°	1965	2009	2114	2223	2253	1518
55°	1463	1511	1638	1751	1799	1312
65°	961	1018	1170	1284	1336	954
75°	489	563	720	843	886	524
85°	118	162	210	210	210	138
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3353.7	3353.7	3353.7	3353.7	3353.7
2.5°	3331.9	3340.6	3358.1	3362.5	3362.5
5°	3318.8	3327.5	3345.0	3349.4	3353.7
7.5°	3297.0	3301.3	3323.2	3331.9	3336.3
10°	3262.0	3270.8	3292.6	3305.7	3310.1
12.5°	3214.0	3227.1	3253.3	3270.8	3275.1
15°	3157.2	3174.7	3200.9	3227.1	3231.5
17.5°	3096.1	3113.6	3148.5	3179.1	3187.8
20°	3021.8	3043.7	3083.0	3117.9	3131.0
22.5°	2947.6	2965.1	3013.1	3056.8	3069.9
25°	2855.9	2882.1	2943.2	2982.5	3000.0
27.5°	2759.8	2790.4	2851.5	2903.9	2921.4
30°	2659.4	2690.0	2755.5	2821.0	2842.8
32.5°	2554.6	2589.5	2668.1	2733.6	2755.5
35°	2445.4	2476.0	2559.0	2637.6	2663.8
37.5°	2331.9	2358.1	2454.2	2537.1	2563.3
40°	2209.6	2244.6	2345.0	2441.1	2467.3
42.5°	2087.3	2126.6	2227.1	2331.9	2358.1
45°	1965.1	2008.7	2113.5	2222.7	2253.3
47.5°	1847.2	1882.1	2000.0	2104.8	2148.5
50°	1720.5	1755.5	1869.0	1986.9	2030.6
52.5°	1589.5	1637.6	1759.8	1873.4	1925.8
55°	1462.9	1510.9	1637.6	1751.1	1799.1
57.5°	1345.0	1384.3	1515.3	1633.2	1681.2
60°	1218.3	1253.3	1393.0	1519.7	1563.3
62.5°	1083.0	1135.4	1279.5	1397.4	1449.8
65°	960.7	1017.5	1170.3	1283.8	1336.3
67.5°	847.2	899.6	1048.0	1170.3	1227.1
70°	716.2	786.0	938.9	1061.1	1113.5
72.5°	611.4	672.5	829.7	952.0	1008.7
75°	489.1	563.3	720.5	842.8	886.5
77.5°	388.6	462.9	611.4	707.4	729.3
80°	283.8	358.1	497.8	545.9	559.0
82.5°	192.1	262.0	358.1	371.2	375.5
85°	117.9	161.6	209.6	209.6	209.6
87.5°	56.8	65.5	74.2	69.9	69.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)