

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: P388173

Luminaire Tested: **22CZ2-110VHE-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: P388173  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-27)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-110VHE-UNV-L930-CD2-SDWPD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8907.4 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.27 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

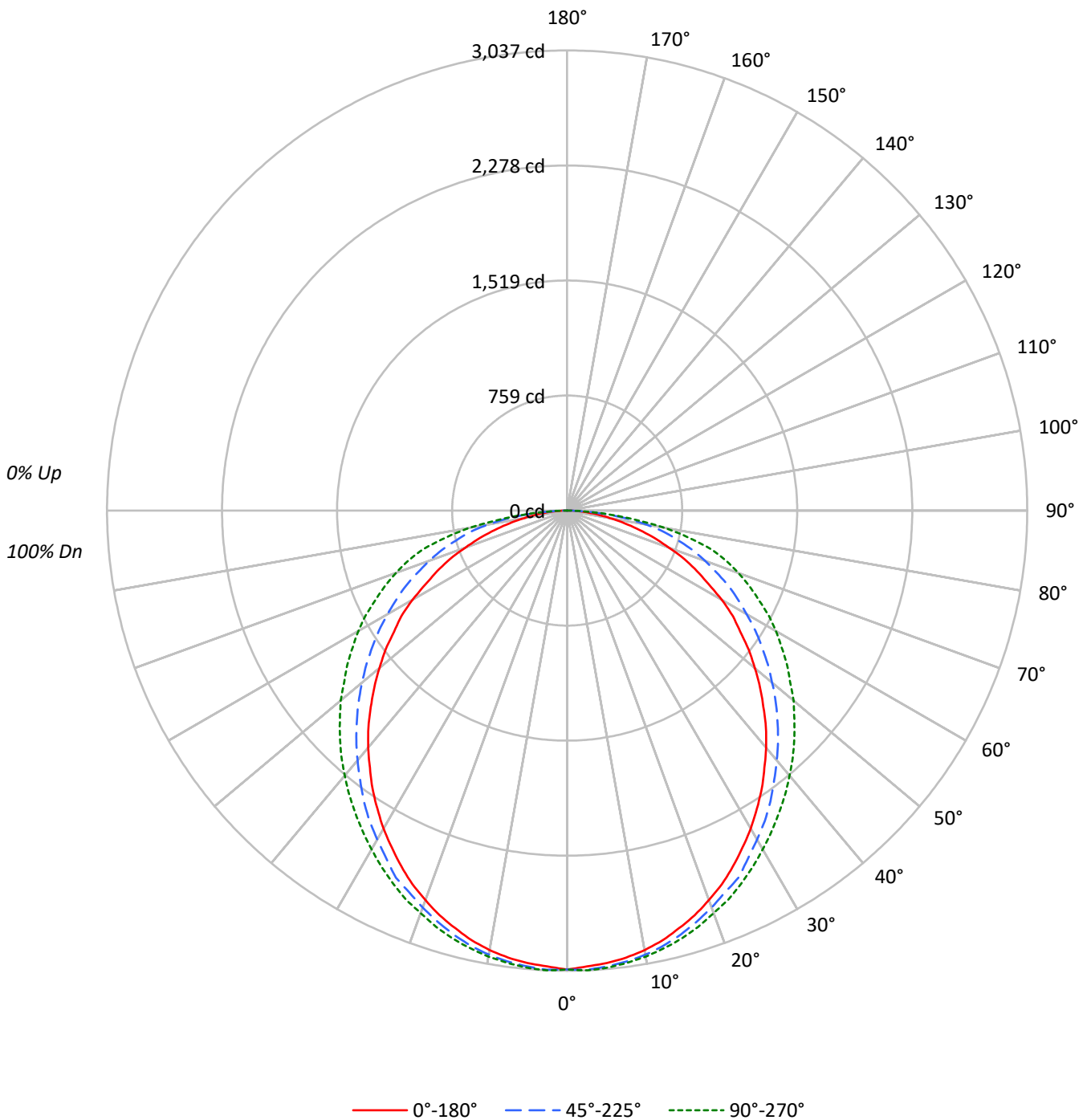
Input Watts (W): 87.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	63	86	76	68	62	73	66	61	70	65	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	52	63	56	51	60	55	50	48
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	44	41
6	69	55	46	39	67	54	46	39	52	45	39	51	44	39	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	39	34	32
8	59	46	37	31	58	45	37	31	44	36	31	42	35	30	41	35	30	28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27	25
10	52	39	31	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23

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

	0°	45°	90°
0°	8150	8150	8150
5°	8098	8158	8181
10°	8048	8132	8168
15°	7949	8071	8145
20°	7832	7983	8096
25°	7691	7939	8069
30°	7531	7790	8022
35°	7358	7689	8006
40°	7175	7560	8022
45°	6972	7473	8073
50°	6771	7395	8166
55°	6539	7362	8307
60°	6345	7360	8563
65°	6028	7480	8875
70°	5621	7622	9449
75°	5150	7884	10208
80°	4483	8218	10053
85°	3924	7308	7984



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	286.4	3.2
10°-20°	815.8	9.2
20°-30°	1224.7	13.7
30°-40°	1463.5	16.4
40°-50°	1521.8	17.1
50°-60°	1410.4	15.8
60°-70°	1156.9	13.0
70°-80°	782.1	8.8
80°-90°	245.7	2.8
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°	2327.0	26.1
0°-40°	3790.5	42.6
0°-60°	6722.7	75.5
0°-90°	8907.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8907.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3029	3029	3029	3029	3029	
5°	2998	3002	3020	3024	3029	285
15°	2853	2866	2897	2915	2924	805
25°	2590	2612	2674	2704	2718	1193
35°	2240	2270	2340	2411	2437	1400
45°	1832	1867	1964	2078	2121	1415
55°	1394	1438	1569	1709	1771	1253
65°	947	999	1175	1328	1394	936
75°	495	579	758	912	982	525
85°	127	175	237	263	259	144
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3028.7	3028.7	3028.7	3028.7	3028.7
2.5°	3011.1	3019.9	3033.1	3037.4	3037.4
5°	2998.0	3002.4	3019.9	3024.3	3028.7
7.5°	2976.1	2984.8	3002.4	3006.8	3011.1
10°	2945.4	2954.2	2976.1	2984.8	2989.2
12.5°	2906.0	2914.7	2941.0	2954.2	2958.6
15°	2853.4	2866.5	2897.2	2914.7	2923.5
17.5°	2800.8	2813.9	2844.6	2870.9	2879.7
20°	2735.0	2765.7	2787.6	2822.7	2827.1
22.5°	2669.3	2686.8	2726.3	2761.3	2778.8
25°	2590.4	2612.3	2673.7	2704.3	2717.5
27.5°	2507.1	2537.8	2586.0	2634.2	2651.7
30°	2423.8	2445.7	2507.1	2564.1	2581.6
32.5°	2331.8	2362.5	2428.2	2485.2	2511.5
35°	2239.7	2270.4	2340.5	2410.7	2437.0
37.5°	2138.9	2174.0	2244.1	2327.4	2362.5
40°	2042.5	2068.8	2152.1	2252.9	2283.6
42.5°	1941.7	1972.4	2060.0	2169.6	2204.7
45°	1832.1	1867.2	1963.6	2077.6	2121.4
47.5°	1726.9	1762.0	1867.2	1981.1	2033.7
50°	1617.3	1661.2	1766.4	1897.9	1950.5
52.5°	1512.1	1551.6	1669.9	1805.8	1854.0
55°	1393.8	1437.6	1569.1	1709.4	1770.7
57.5°	1297.4	1328.1	1472.7	1617.3	1678.7
60°	1179.0	1218.5	1367.5	1520.9	1591.0
62.5°	1051.9	1117.7	1271.1	1428.9	1499.0
65°	946.7	999.3	1174.7	1328.1	1393.8
67.5°	837.2	894.1	1065.1	1227.3	1301.8
70°	714.4	788.9	968.7	1130.8	1201.0
72.5°	604.9	683.8	867.8	1025.6	1100.1
75°	495.3	578.6	758.3	911.7	981.8
77.5°	390.1	482.1	657.5	775.8	819.6
80°	289.3	376.9	530.3	613.6	648.7
82.5°	201.6	276.1	390.1	433.9	442.7
85°	127.1	175.3	236.7	263.0	258.6
87.5°	57.0	70.1	87.7	96.4	92.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)