

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: P388322

Luminaire Tested: **24CZ2-110VHE-SQR-UNV-L930-CD2-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: P388322
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)
Test Lab: INNOVATION CENTER (G2)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-SQR-UNV-L930-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8793.9 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

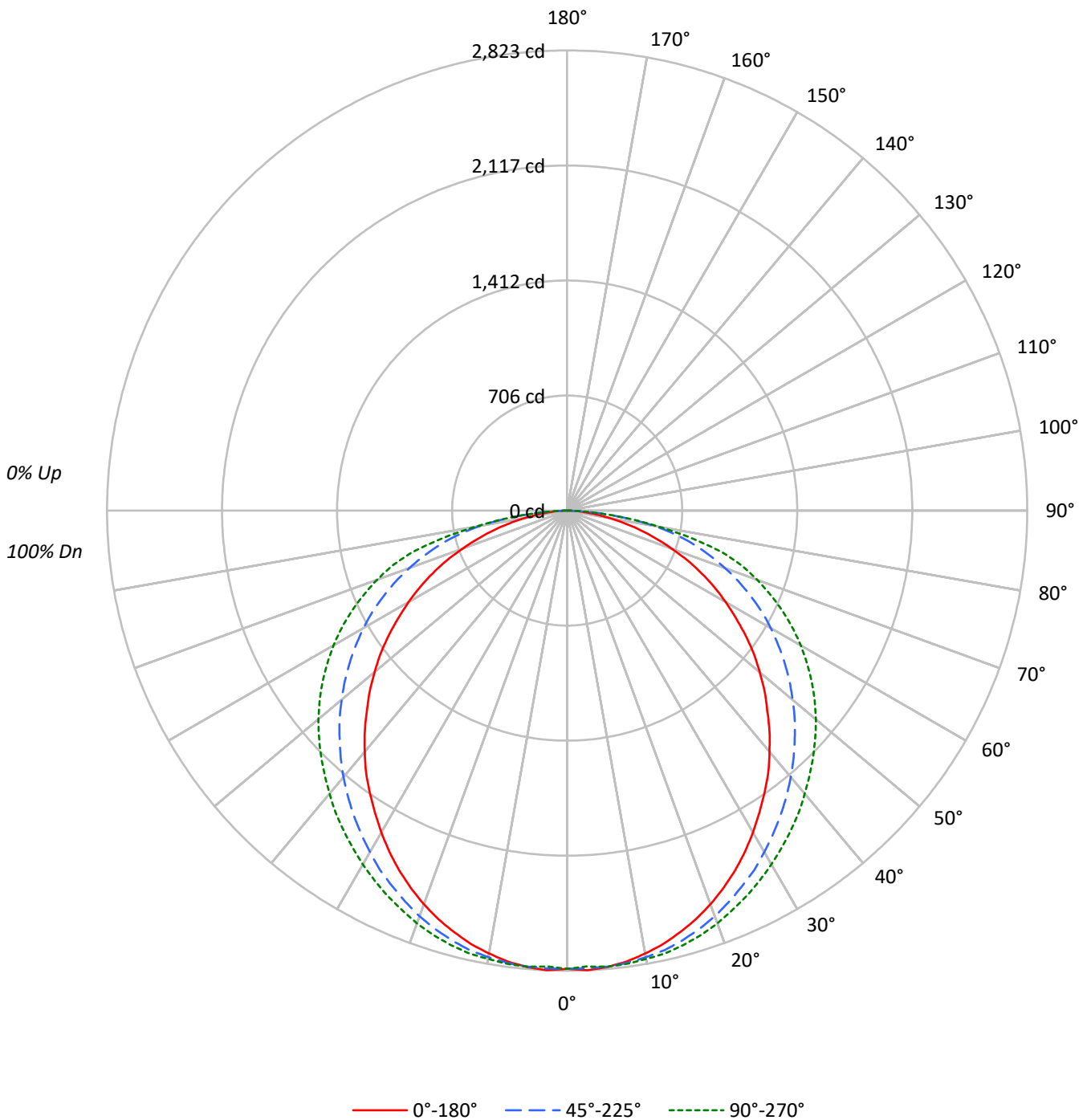
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3782	3782	3782
5°	3797	3793	3793
10°	3769	3801	3817
15°	3729	3802	3843
20°	3680	3792	3859
25°	3617	3772	3871
30°	3542	3758	3894
35°	3468	3749	3930
40°	3392	3749	3983
45°	3304	3757	4061
50°	3228	3781	4170
55°	3134	3822	4298
60°	3024	3884	4454
65°	2894	3957	4641
70°	2685	4056	4878
75°	2430	4197	5102
80°	2048	4207	4388
85°	1568	3183	3183



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.8	3.0
10°-20°	767.7	8.7
20°-30°	1166.1	13.3
30°-40°	1418.4	16.1
40°-50°	1510.1	17.2
50°-60°	1438.3	16.4
60°-70°	1202.8	13.7
70°-80°	801.9	9.1
80°-90°	221.9	2.5
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°	2200.6	25.0
0°-40°	3618.9	41.2
0°-60°	6567.3	74.7
0°-90°	8793.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8793.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2811	2811	2811	2811	2811	
5°	2811	2794	2808	2808	2808	267
15°	2677	2683	2730	2750	2759	755
25°	2436	2468	2541	2584	2608	1122
35°	2111	2172	2282	2358	2393	1321
45°	1736	1829	1975	2085	2134	1342
55°	1336	1452	1629	1771	1832	1194
65°	909	1042	1243	1397	1458	898
75°	468	616	807	944	982	495
85°	102	189	206	203	206	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2811.0	2811.0	2811.0	2811.0	2811.0
2.5°	2822.6	2802.2	2811.0	2811.0	2799.3
5°	2811.0	2793.5	2808.1	2808.1	2808.1
7.5°	2790.6	2776.1	2799.3	2805.2	2805.2
10°	2758.7	2752.9	2781.9	2790.6	2793.5
12.5°	2723.8	2720.9	2761.6	2773.2	2781.9
15°	2677.4	2683.2	2729.6	2750.0	2758.7
17.5°	2628.0	2639.6	2691.9	2720.9	2729.6
20°	2569.9	2587.4	2648.3	2677.4	2694.8
22.5°	2506.1	2532.2	2596.1	2630.9	2651.2
25°	2436.4	2468.3	2540.9	2584.5	2607.7
27.5°	2360.9	2401.5	2485.7	2535.1	2558.3
30°	2279.5	2326.0	2418.9	2477.0	2506.1
32.5°	2195.3	2250.5	2352.1	2416.0	2450.9
35°	2111.1	2172.1	2282.5	2358.0	2392.8
37.5°	2026.9	2087.9	2209.9	2291.2	2334.7
40°	1931.1	2003.7	2134.4	2224.4	2267.9
42.5°	1838.2	1916.6	2055.9	2154.7	2201.1
45°	1736.5	1829.4	1974.6	2085.0	2134.4
47.5°	1643.6	1736.5	1893.3	2009.5	2064.7
50°	1542.0	1640.7	1806.2	1934.0	1992.1
52.5°	1443.2	1544.9	1719.1	1855.6	1913.7
55°	1335.8	1451.9	1629.1	1771.4	1832.3
57.5°	1228.3	1353.2	1536.2	1684.3	1745.2
60°	1123.8	1251.6	1443.2	1591.3	1655.2
62.5°	1019.3	1147.0	1347.4	1498.4	1559.4
65°	908.9	1042.5	1242.9	1396.8	1457.7
67.5°	798.6	938.0	1138.3	1292.2	1350.3
70°	682.4	830.5	1030.9	1181.9	1240.0
72.5°	575.0	723.1	920.5	1068.6	1123.8
75°	467.5	615.6	807.3	943.8	981.5
77.5°	363.0	511.1	682.4	772.4	781.1
80°	264.3	403.6	543.0	569.2	566.3
82.5°	177.1	302.0	374.6	377.5	386.2
85°	101.6	188.8	206.2	203.3	206.2
87.5°	40.7	66.8	58.1	43.6	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)