

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: P388321

Luminaire Tested: **24CZ2-110VHE-SQR-UNV-L930-CD2-SWPD1-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: P388321
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-SWPD1-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: 8684.8 lumens
Efficiency: N/A
Efficacy: 112.2 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

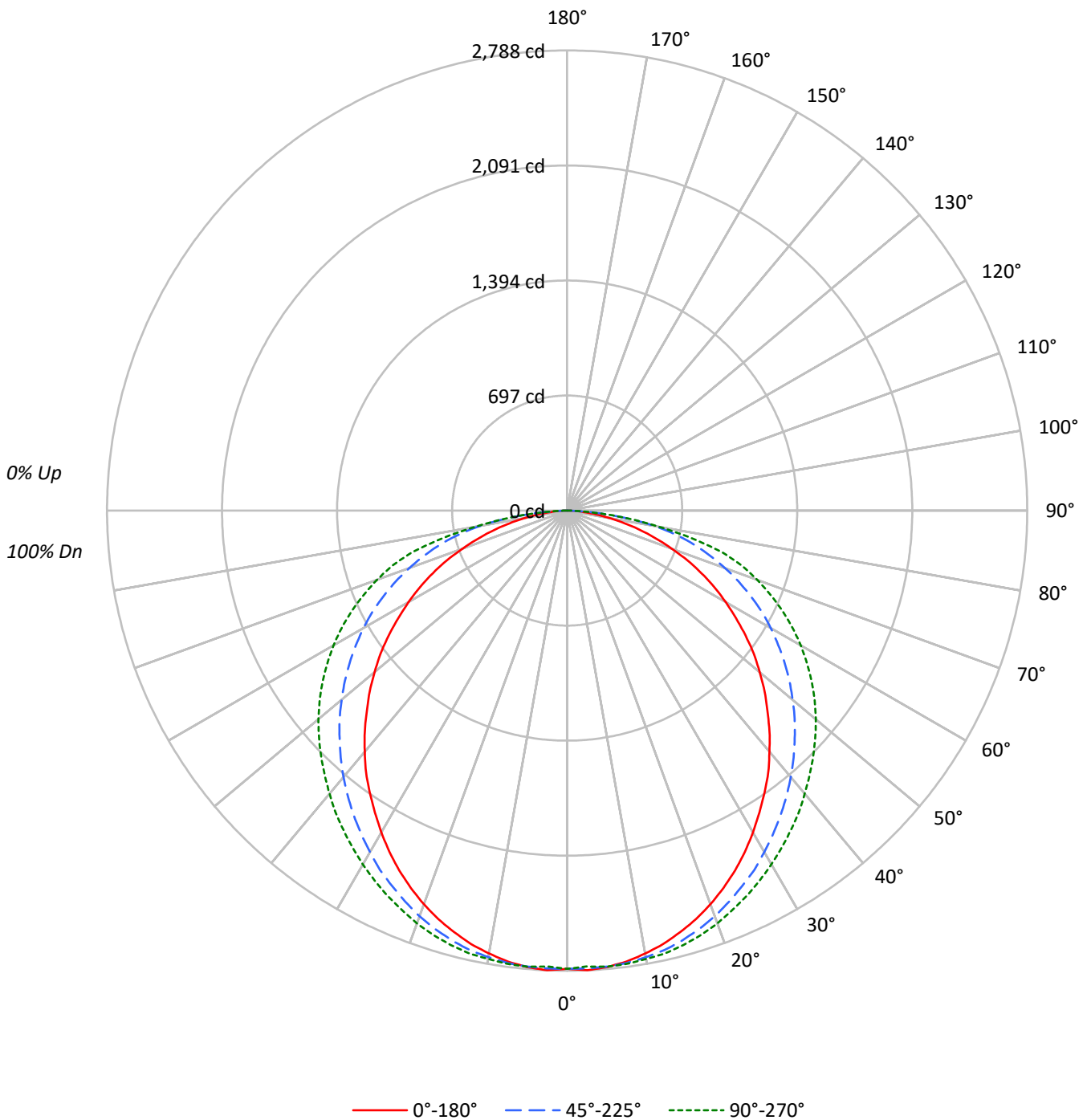
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3735	3735	3735
5°	3749	3746	3746
10°	3722	3754	3769
15°	3683	3755	3795
20°	3634	3745	3811
25°	3572	3725	3823
30°	3498	3711	3845
35°	3425	3702	3881
40°	3350	3702	3934
45°	3263	3711	4011
50°	3188	3734	4118
55°	3095	3774	4245
60°	2987	3835	4399
65°	2858	3908	4584
70°	2651	4005	4818
75°	2400	4145	5039
80°	2022	4155	4333
85°	1550	3143	3143



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.5	3.0
10°-20°	758.2	8.7
20°-30°	1151.6	13.3
30°-40°	1400.8	16.1
40°-50°	1491.3	17.2
50°-60°	1420.4	16.4
60°-70°	1187.9	13.7
70°-80°	792.0	9.1
80°-90°	219.1	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°	2173.3	25.0
0°-40°	3574.0	41.2
0°-60°	6485.8	74.7
0°-90°	8684.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8684.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2776	2776	2776	2776	2776	
5°	2776	2759	2773	2773	2773	263
15°	2644	2650	2696	2716	2724	746
25°	2406	2438	2509	2552	2575	1108
35°	2085	2145	2254	2329	2363	1305
45°	1715	1807	1950	2059	2108	1326
55°	1319	1434	1609	1749	1810	1179
65°	898	1030	1227	1379	1440	887
75°	462	608	797	932	969	489
85°	100	186	204	201	204	121
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2776.1	2776.1	2776.1	2776.1	2776.1
2.5°	2787.6	2767.5	2776.1	2776.1	2764.6
5°	2776.1	2758.9	2773.2	2773.2	2773.2
7.5°	2756.0	2741.7	2764.6	2770.3	2770.3
10°	2724.5	2718.7	2747.4	2756.0	2758.9
12.5°	2690.0	2687.2	2727.3	2738.8	2747.4
15°	2644.2	2649.9	2695.8	2715.9	2724.5
17.5°	2595.4	2606.9	2658.5	2687.2	2695.8
20°	2538.1	2555.3	2615.5	2644.2	2661.4
22.5°	2475.0	2500.8	2563.9	2598.3	2618.4
25°	2406.1	2437.7	2509.4	2552.4	2575.3
27.5°	2331.6	2371.7	2454.9	2503.6	2526.6
30°	2251.3	2297.2	2388.9	2446.3	2475.0
32.5°	2168.1	2222.6	2323.0	2386.1	2420.5
35°	2084.9	2145.2	2254.1	2328.7	2363.1
37.5°	2001.8	2062.0	2182.4	2262.7	2305.8
40°	1907.1	1978.8	2107.9	2196.8	2239.8
42.5°	1815.4	1892.8	2030.4	2127.9	2173.8
45°	1715.0	1806.7	1950.1	2059.1	2107.9
47.5°	1623.2	1715.0	1869.8	1984.6	2039.0
50°	1522.8	1620.3	1783.8	1910.0	1967.3
52.5°	1425.3	1525.7	1697.8	1832.6	1889.9
55°	1319.2	1433.9	1608.9	1749.4	1809.6
57.5°	1213.1	1336.4	1517.1	1663.4	1723.6
60°	1109.9	1236.0	1425.3	1571.6	1634.7
62.5°	1006.6	1132.8	1330.7	1479.8	1540.0
65°	897.6	1029.6	1227.4	1379.4	1439.7
67.5°	788.7	926.3	1124.2	1276.2	1333.6
70°	673.9	820.2	1018.1	1167.2	1224.6
72.5°	567.8	714.1	909.1	1055.4	1109.9
75°	461.7	608.0	797.3	932.1	969.3
77.5°	358.5	504.7	673.9	762.8	771.5
80°	261.0	398.6	536.3	562.1	559.2
82.5°	174.9	298.3	370.0	372.8	381.4
85°	100.4	186.4	203.6	200.7	203.6
87.5°	40.1	66.0	57.4	43.0	43.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)