

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: P388607

Luminaire Tested: **24CZ2-110VHE-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: P388607
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-UNV-L930-CD2-U
Description: 2x4 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: 9156.7 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

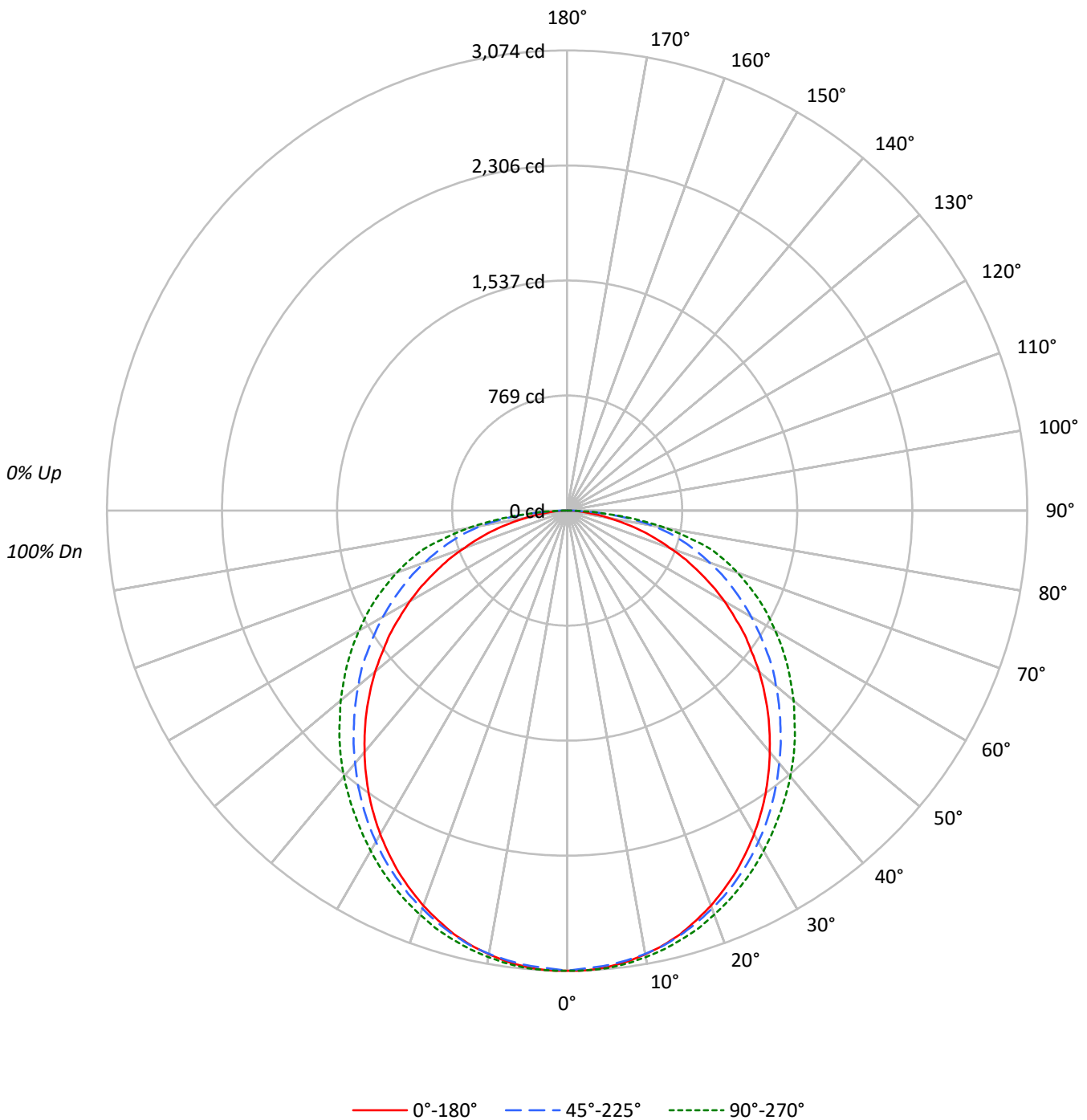
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4136	4136	4136
5°	4136	4119	4144
10°	4113	4108	4138
15°	4078	4087	4129
20°	4021	4052	4113
25°	3956	4015	4097
30°	3879	3969	4078
35°	3795	3920	4066
40°	3698	3870	4074
45°	3605	3832	4094
50°	3505	3813	4132
55°	3398	3807	4208
60°	3265	3824	4317
65°	3094	3882	4505
70°	2873	3979	4761
75°	2621	4178	5163
80°	2155	4499	5162
85°	1652	4151	4435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.8	3.2
10°-20°	830.1	9.1
20°-30°	1249.2	13.6
30°-40°	1497.0	16.3
40°-50°	1560.0	17.0
50°-60°	1451.4	15.9
60°-70°	1195.4	13.1
70°-80°	814.1	8.9
80°-90°	268.8	2.9
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°	2370.0	25.9
0°-40°	3867.0	42.2
0°-60°	6878.4	75.1
0°-90°	9156.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9156.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3074	3074	3074	3074	3074	
5°	3062	3062	3050	3065	3068	291
15°	2928	2931	2934	2961	2964	825
25°	2665	2677	2705	2750	2760	1227
35°	2310	2338	2387	2451	2475	1444
45°	1895	1934	2014	2115	2151	1461
55°	1448	1497	1623	1751	1794	1291
65°	972	1054	1219	1363	1415	965
75°	504	617	804	947	993	532
85°	107	208	269	287	287	133
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3074.3	3074.3	3074.3	3074.3	3074.3
2.5°	3074.3	3074.3	3059.1	3074.3	3074.3
5°	3062.1	3062.1	3049.9	3065.2	3068.2
7.5°	3040.7	3043.8	3031.5	3049.9	3052.9
10°	3010.2	3013.2	3007.1	3025.4	3028.5
12.5°	2973.5	2976.5	2976.5	2997.9	3001.0
15°	2927.6	2930.7	2933.8	2961.3	2964.3
17.5°	2869.6	2878.7	2884.9	2918.5	2924.6
20°	2808.5	2817.6	2829.9	2866.5	2872.6
22.5°	2738.2	2750.4	2771.8	2811.5	2820.7
25°	2664.8	2677.1	2704.6	2750.4	2759.6
27.5°	2582.3	2600.7	2634.3	2683.2	2695.4
30°	2496.7	2515.1	2554.8	2606.8	2625.1
32.5°	2405.1	2429.5	2475.4	2533.4	2551.8
35°	2310.3	2337.8	2386.7	2450.9	2475.4
37.5°	2209.5	2240.0	2298.1	2368.4	2399.0
40°	2105.6	2142.3	2203.4	2285.9	2319.5
42.5°	2001.7	2035.3	2111.7	2200.3	2237.0
45°	1894.7	1934.4	2013.9	2114.7	2151.4
47.5°	1784.7	1824.4	1919.2	2026.1	2059.7
50°	1674.7	1714.4	1821.4	1934.4	1974.2
52.5°	1555.5	1607.5	1729.7	1842.8	1882.5
55°	1448.5	1497.4	1622.7	1751.1	1793.9
57.5°	1326.3	1384.4	1521.9	1656.3	1702.2
60°	1213.2	1274.3	1421.0	1558.6	1604.4
62.5°	1097.1	1164.3	1320.2	1460.8	1512.7
65°	971.8	1054.3	1219.3	1363.0	1414.9
67.5°	858.7	944.3	1118.5	1265.2	1311.0
70°	730.4	834.3	1011.5	1158.2	1210.2
72.5°	620.4	724.3	910.7	1054.3	1106.3
75°	504.2	617.3	803.7	947.4	993.2
77.5°	388.1	513.4	699.8	809.8	825.1
80°	278.1	409.5	580.6	644.8	666.2
82.5°	195.6	314.8	427.8	470.6	482.8
85°	107.0	207.8	268.9	287.3	287.3
87.5°	45.8	88.6	107.0	110.0	113.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)