

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: P388606

Luminaire Tested: **24CZ2-110VHE-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: P388606
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-SWPD1-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: 9043.1 lumens
Efficiency: N/A
Efficacy: 116.8 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

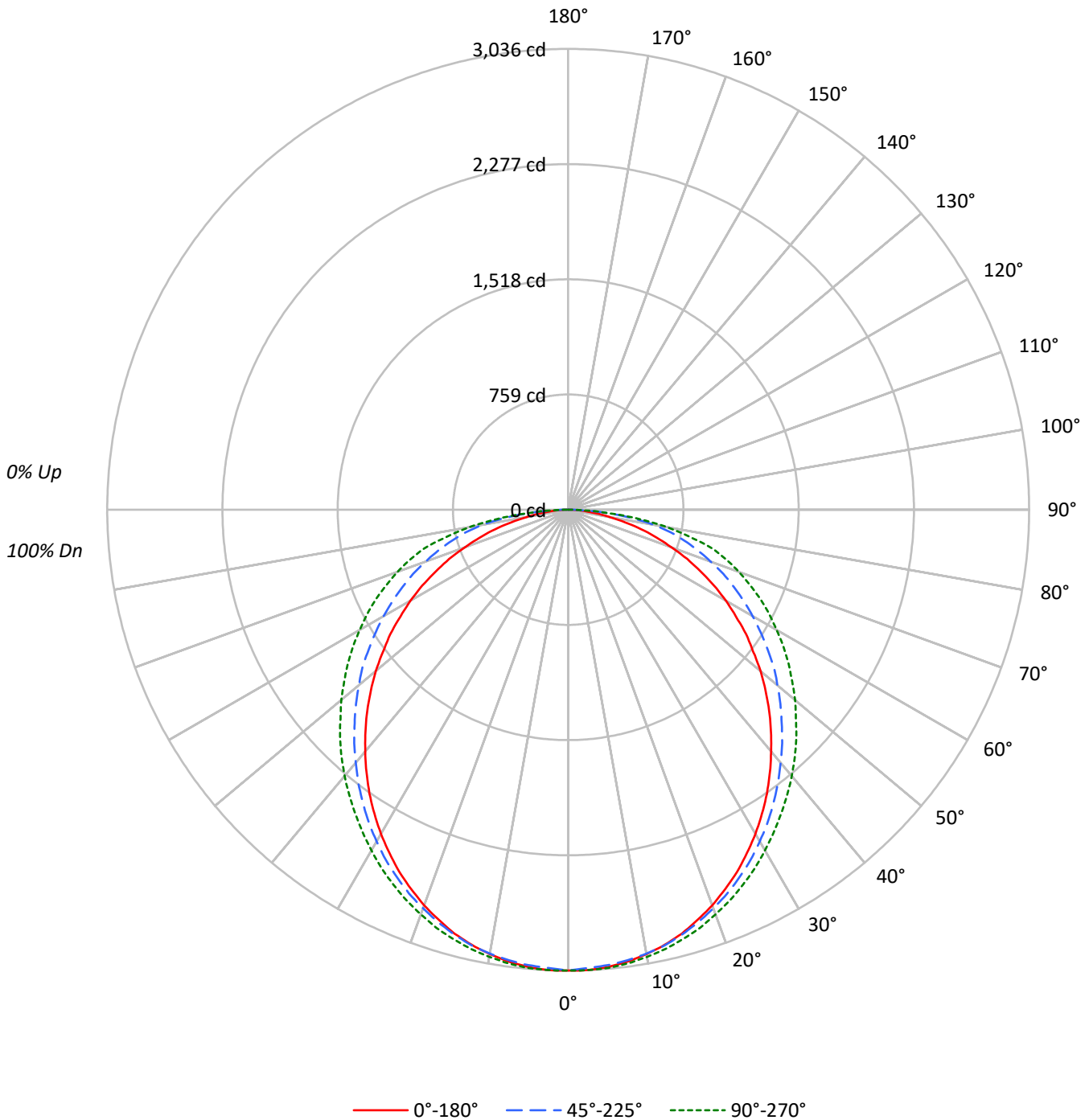
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4085	4085	4085
5°	4084	4068	4093
10°	4062	4057	4086
15°	4027	4036	4078
20°	3971	4002	4062
25°	3907	3965	4046
30°	3831	3920	4028
35°	3748	3872	4015
40°	3652	3822	4023
45°	3561	3784	4043
50°	3462	3765	4081
55°	3356	3759	4156
60°	3224	3777	4264
65°	3055	3834	4449
70°	2838	3930	4702
75°	2589	4127	5099
80°	2128	4443	5098
85°	1630	4100	4380



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.1	3.2
10°-20°	819.8	9.1
20°-30°	1233.7	13.6
30°-40°	1478.4	16.3
40°-50°	1540.6	17.0
50°-60°	1433.4	15.9
60°-70°	1180.6	13.1
70°-80°	804.0	8.9
80°-90°	265.4	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°	2340.6	25.9
0°-40°	3819.0	42.2
0°-60°	6793.0	75.1
0°-90°	9043.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9043.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3036	3036	3036	3036	3036	
5°	3024	3024	3012	3027	3030	287
15°	2891	2894	2897	2924	2928	815
25°	2632	2644	2671	2716	2725	1212
35°	2282	2309	2357	2420	2445	1426
45°	1871	1910	1989	2088	2125	1443
55°	1431	1479	1603	1729	1772	1275
65°	960	1041	1204	1346	1397	953
75°	498	610	794	936	981	525
85°	106	205	266	284	284	131
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3036.2	3036.2	3036.2	3036.2	3036.2
2.5°	3036.2	3036.2	3021.1	3036.2	3036.2
5°	3024.1	3024.1	3012.0	3027.1	3030.2
7.5°	3003.0	3006.0	2993.9	3012.0	3015.1
10°	2972.8	2975.8	2969.8	2987.9	2990.9
12.5°	2936.6	2939.6	2939.6	2960.7	2963.8
15°	2891.3	2894.3	2897.4	2924.5	2927.5
17.5°	2834.0	2843.0	2849.1	2882.3	2888.3
20°	2773.6	2782.7	2794.7	2831.0	2837.0
22.5°	2704.2	2716.3	2737.4	2776.6	2785.7
25°	2631.8	2643.8	2671.0	2716.3	2725.3
27.5°	2550.3	2568.4	2601.6	2649.9	2661.9
30°	2465.8	2483.9	2523.1	2574.4	2592.5
32.5°	2375.2	2399.4	2444.6	2502.0	2520.1
35°	2281.7	2308.8	2357.1	2420.5	2444.6
37.5°	2182.1	2212.3	2269.6	2339.0	2369.2
40°	2079.5	2115.7	2176.0	2257.5	2290.7
42.5°	1976.8	2010.0	2085.5	2173.0	2209.2
45°	1871.2	1910.4	1988.9	2088.5	2124.7
47.5°	1762.6	1801.8	1895.4	2001.0	2034.2
50°	1653.9	1693.1	1798.8	1910.4	1949.7
52.5°	1536.2	1587.5	1708.2	1819.9	1859.1
55°	1430.6	1478.9	1602.6	1729.4	1771.6
57.5°	1309.8	1367.2	1503.0	1635.8	1681.1
60°	1198.2	1258.5	1403.4	1539.2	1584.5
62.5°	1083.5	1149.9	1303.8	1442.6	1493.9
65°	959.7	1041.2	1204.2	1346.1	1397.4
67.5°	848.1	932.6	1104.6	1249.5	1294.8
70°	721.3	823.9	999.0	1143.9	1195.2
72.5°	612.7	715.3	899.4	1041.2	1092.5
75°	498.0	609.7	793.8	935.6	980.9
77.5°	383.3	507.0	691.1	799.8	814.9
80°	274.6	404.4	573.4	636.8	657.9
82.5°	193.2	310.9	422.5	464.8	476.9
85°	105.6	205.2	265.6	283.7	283.7
87.5°	45.3	87.5	105.6	108.7	111.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)