

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: P388609

Luminaire Tested: **24CZ2-110VHE-UNV-L935-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: P388609
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-L935-CD2-SWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND RIBBED LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9266.7 lumens
Efficiency: N/A
Efficacy: 119.7 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

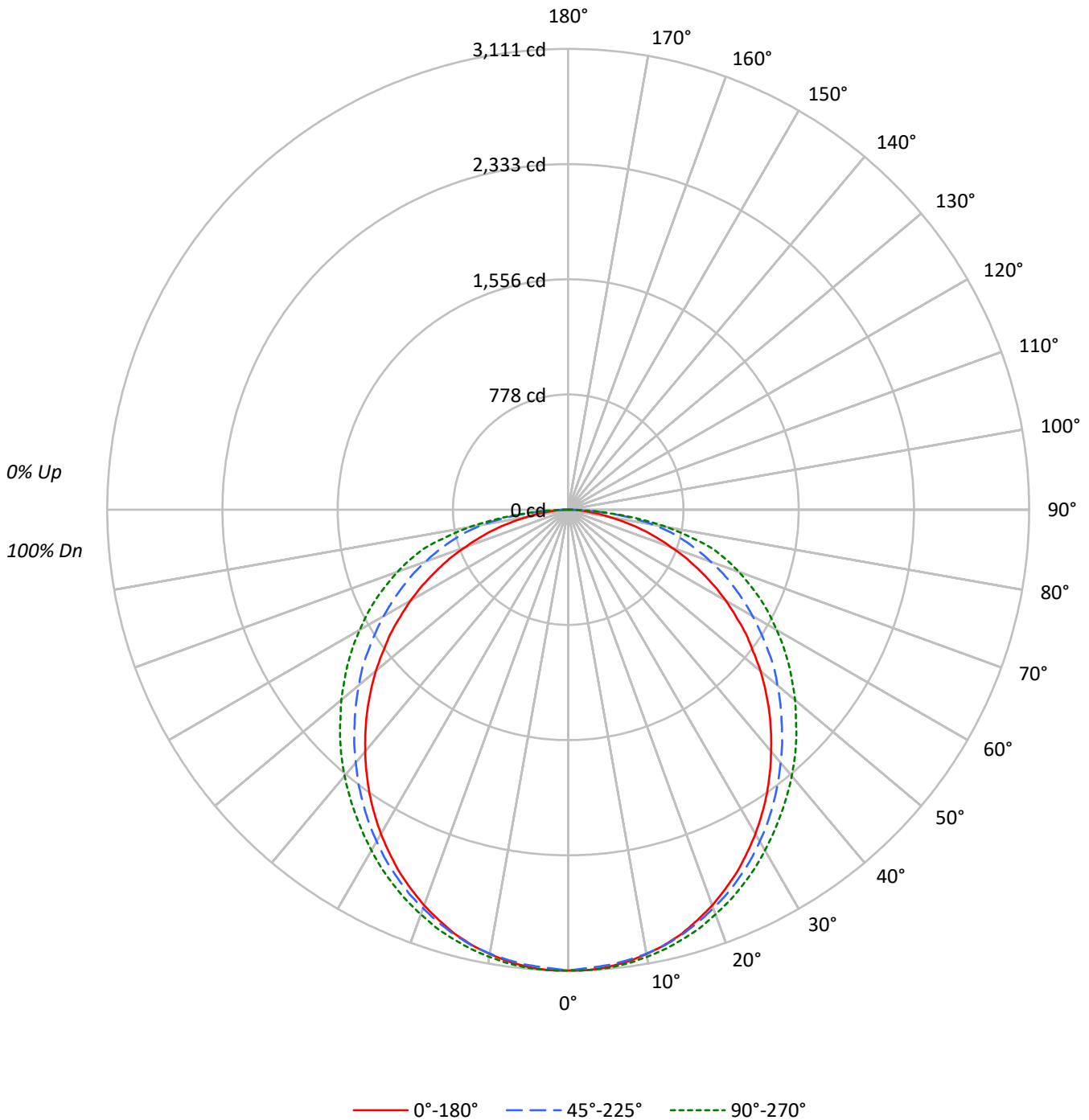
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4186	4186	4186
5°	4185	4169	4194
10°	4162	4158	4187
15°	4127	4136	4179
20°	4070	4101	4163
25°	4004	4063	4146
30°	3926	4017	4127
35°	3840	3967	4115
40°	3743	3916	4123
45°	3649	3878	4143
50°	3548	3858	4182
55°	3439	3852	4259
60°	3304	3870	4369
65°	3131	3929	4559
70°	2908	4027	4818
75°	2653	4229	5225
80°	2180	4553	5224
85°	1670	4202	4488



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.2	3.2
10°-20°	840.1	9.1
20°-30°	1264.2	13.6
30°-40°	1515.0	16.3
40°-50°	1578.7	17.0
50°-60°	1468.8	15.9
60°-70°	1209.8	13.1
70°-80°	823.9	8.9
80°-90°	272.0	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°	2398.5	25.9
0°-40°	3913.4	42.2
0°-60°	6961.0	75.1
0°-90°	9266.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9266.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3111	3111	3111	3111	3111	
5°	3099	3099	3086	3102	3105	294
15°	2963	2966	2969	2997	3000	835
25°	2697	2709	2737	2783	2793	1241
35°	2338	2366	2415	2480	2505	1462
45°	1918	1958	2038	2140	2177	1479
55°	1466	1515	1642	1772	1815	1307
65°	984	1067	1234	1379	1432	976
75°	510	625	813	959	1005	538
85°	108	210	272	291	291	134
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3111.3	3111.3	3111.3	3111.3	3111.3
2.5°	3111.3	3111.3	3095.8	3111.3	3111.3
5°	3098.9	3098.9	3086.5	3102.0	3105.1
7.5°	3077.2	3080.3	3068.0	3086.5	3089.6
10°	3046.3	3049.4	3043.2	3061.8	3064.9
12.5°	3009.2	3012.3	3012.3	3033.9	3037.0
15°	2962.8	2965.9	2969.0	2996.8	2999.9
17.5°	2904.1	2913.3	2919.5	2953.5	2959.7
20°	2842.2	2851.5	2863.8	2901.0	2907.1
22.5°	2771.1	2783.4	2805.1	2845.3	2854.6
25°	2696.8	2709.2	2737.0	2783.4	2792.7
27.5°	2613.3	2631.9	2665.9	2715.4	2727.8
30°	2526.7	2545.3	2585.5	2638.1	2656.6
32.5°	2434.0	2458.7	2505.1	2563.9	2582.4
35°	2338.1	2365.9	2415.4	2480.4	2505.1
37.5°	2236.0	2267.0	2325.7	2396.8	2427.8
40°	2130.9	2168.0	2229.8	2313.3	2347.4
42.5°	2025.7	2059.7	2137.1	2226.7	2263.9
45°	1917.5	1957.7	2038.1	2140.2	2177.3
47.5°	1806.1	1846.3	1942.2	2050.5	2084.5
50°	1694.8	1735.0	1843.3	1957.7	1997.9
52.5°	1574.2	1626.8	1750.5	1864.9	1905.1
55°	1465.9	1515.4	1642.2	1772.1	1815.4
57.5°	1342.2	1401.0	1540.2	1676.2	1722.6
60°	1227.8	1289.7	1438.1	1577.3	1623.7
62.5°	1110.3	1178.3	1336.0	1478.3	1530.9
65°	983.5	1067.0	1234.0	1379.3	1431.9
67.5°	869.1	955.6	1131.9	1280.4	1326.8
70°	739.2	844.3	1023.7	1172.1	1224.7
72.5°	627.8	733.0	921.6	1067.0	1119.6
75°	510.3	624.7	813.4	958.7	1005.1
77.5°	392.8	519.6	708.2	819.6	835.0
80°	281.4	414.4	587.6	652.6	674.2
82.5°	197.9	318.5	433.0	476.3	488.6
85°	108.2	210.3	272.2	290.7	290.7
87.5°	46.4	89.7	108.2	111.3	114.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)