

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: P390941

Luminaire Tested: **24CZ2-110VHE-HRP-UNV-L940-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: P390941
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-HRP-UNV-L940-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8047.1 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

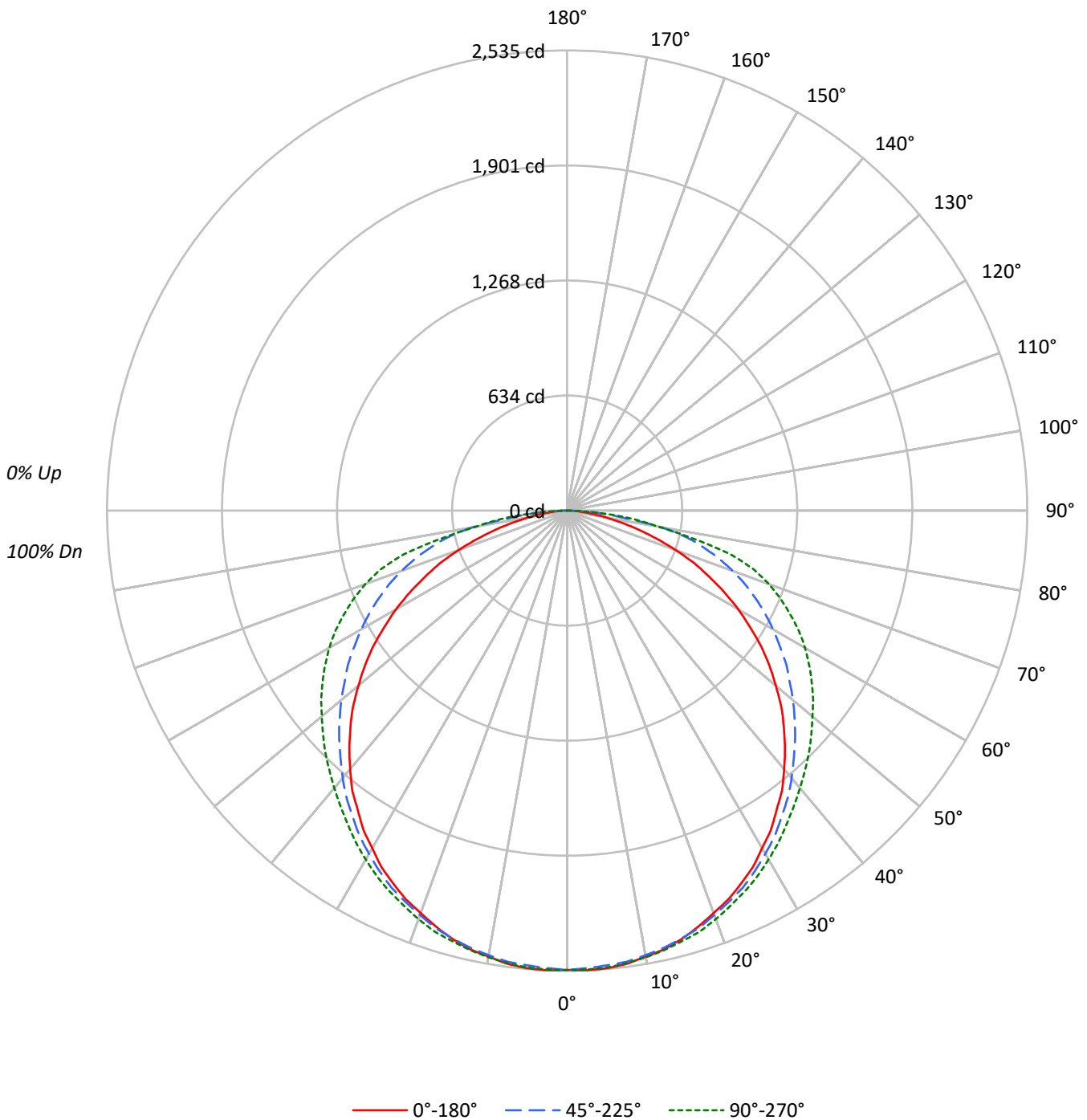
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3405	3405	3405
5°	3418	3396	3412
10°	3408	3397	3414
15°	3403	3397	3419
20°	3378	3395	3429
25°	3366	3401	3437
30°	3336	3392	3448
35°	3304	3383	3462
40°	3267	3379	3505
45°	3213	3380	3585
50°	3141	3400	3693
55°	3062	3455	3858
60°	2932	3523	4071
65°	2745	3647	4321
70°	2496	3816	4648
75°	2116	4025	4855
80°	1670	4052	3928
85°	1232	3081	3450



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.0	3.0
10°-20°	690.9	8.6
20°-30°	1056.5	13.1
30°-40°	1291.5	16.0
40°-50°	1376.5	17.1
50°-60°	1316.1	16.4
60°-70°	1114.9	13.9
70°-80°	749.3	9.3
80°-90°	211.4	2.6
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°	1987.4	24.7
0°-40°	3278.9	40.7
0°-60°	5971.5	74.2
0°-90°	8047.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8047.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2531	2531	2531	2531	2531	
5°	2531	2527	2515	2527	2527	240
15°	2443	2443	2439	2459	2455	689
25°	2267	2275	2291	2311	2315	1045
35°	2012	2028	2060	2100	2108	1260
45°	1688	1716	1776	1852	1884	1302
55°	1305	1353	1473	1589	1644	1162
65°	862	950	1146	1297	1357	856
75°	407	555	774	906	934	436
85°	80	164	200	216	224	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2530.6	2530.6	2530.6	2530.6	2530.6
2.5°	2534.6	2534.6	2522.6	2530.6	2530.6
5°	2530.6	2526.6	2514.6	2526.6	2526.6
7.5°	2518.6	2514.6	2506.6	2518.6	2514.6
10°	2494.7	2494.7	2486.7	2498.7	2498.7
12.5°	2474.7	2470.7	2466.7	2482.7	2478.7
15°	2442.8	2442.8	2438.8	2458.7	2454.7
17.5°	2402.9	2406.8	2410.8	2426.8	2430.8
20°	2359.0	2366.9	2370.9	2394.9	2394.9
22.5°	2319.0	2323.0	2331.0	2355.0	2355.0
25°	2267.1	2275.1	2291.1	2311.1	2315.0
27.5°	2215.3	2219.2	2239.2	2267.1	2271.1
30°	2147.4	2159.4	2183.3	2215.3	2219.2
32.5°	2087.5	2099.5	2127.4	2159.4	2167.4
35°	2011.7	2027.7	2059.6	2099.5	2107.5
37.5°	1943.8	1955.8	1995.7	2039.6	2051.6
40°	1860.0	1884.0	1923.9	1975.8	1995.7
42.5°	1776.2	1800.1	1848.0	1915.9	1939.8
45°	1688.4	1716.3	1776.2	1852.0	1884.0
47.5°	1600.6	1632.5	1700.4	1788.2	1824.1
50°	1500.8	1540.7	1624.5	1724.3	1764.2
52.5°	1405.0	1452.9	1544.7	1656.5	1708.3
55°	1305.2	1353.1	1472.8	1588.6	1644.5
57.5°	1193.4	1257.3	1389.0	1520.7	1580.6
60°	1089.7	1149.5	1309.2	1452.9	1512.8
62.5°	977.9	1057.7	1229.4	1381.0	1440.9
65°	862.2	950.0	1145.5	1297.2	1357.1
67.5°	758.4	854.2	1061.7	1213.4	1273.3
70°	634.6	754.4	969.9	1121.6	1181.5
72.5°	518.9	650.6	874.1	1021.8	1077.7
75°	407.1	554.8	774.3	906.1	934.0
77.5°	303.4	459.0	670.6	726.4	706.5
80°	215.5	367.2	522.9	494.9	506.9
82.5°	139.7	279.4	323.3	367.2	379.2
85°	79.8	163.6	199.6	215.5	223.5
87.5°	35.9	59.9	79.8	79.8	75.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)