

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: P390942

Luminaire Tested: **24CZ2-110VHE-HRP-UNV-L950-CD2-SDWPD1-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: P390942  
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-L950-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8333.7 lumens  
Efficiency: N/A  
Efficacy: 107.7 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

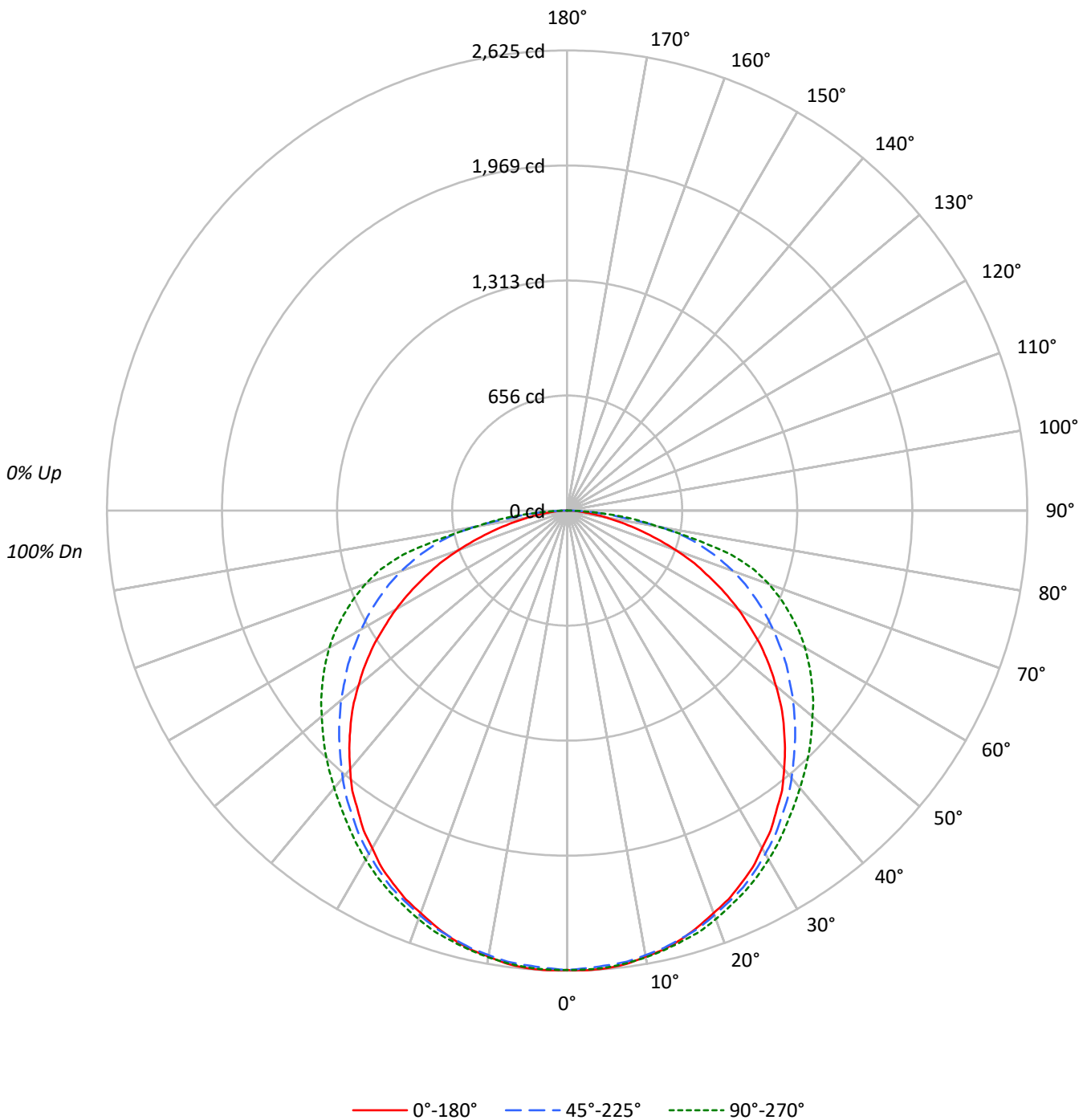
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3526	3526	3526
5°	3540	3517	3534
10°	3530	3518	3535
15°	3524	3518	3541
20°	3498	3516	3551
25°	3486	3522	3559
30°	3455	3513	3571
35°	3422	3503	3585
40°	3383	3499	3630
45°	3327	3500	3713
50°	3253	3522	3825
55°	3171	3578	3995
60°	3037	3648	4216
65°	2843	3777	4474
70°	2585	3952	4813
75°	2192	4169	5029
80°	1729	4196	4068
85°	1277	3191	3574



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	248.6	3.0
10°-20°	715.5	8.6
20°-30°	1094.1	13.1
30°-40°	1337.5	16.0
40°-50°	1425.5	17.1
50°-60°	1363.0	16.4
60°-70°	1154.6	13.9
70°-80°	776.0	9.3
80°-90°	218.9	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°	2058.2	24.7
0°-40°	3395.7	40.7
0°-60°	6184.2	74.2
0°-90°	8333.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8333.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2621	2621	2621	2621	2621	
5°	2621	2617	2604	2617	2617	249
15°	2530	2530	2526	2546	2542	713
25°	2348	2356	2373	2393	2398	1082
35°	2083	2100	2133	2174	2182	1305
45°	1748	1778	1840	1918	1951	1349
55°	1352	1401	1525	1645	1703	1204
65°	893	984	1186	1343	1405	886
75°	422	575	802	938	967	451
85°	83	170	207	223	232	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2620.7	2620.7	2620.7	2620.7	2620.7
2.5°	2624.8	2624.8	2612.4	2620.7	2620.7
5°	2620.7	2616.6	2604.2	2616.6	2616.6
7.5°	2608.3	2604.2	2595.9	2608.3	2604.2
10°	2583.5	2583.5	2575.2	2587.6	2587.6
12.5°	2562.8	2558.7	2554.6	2571.1	2567.0
15°	2529.8	2529.8	2525.6	2546.3	2542.2
17.5°	2488.4	2492.6	2496.7	2513.2	2517.4
20°	2443.0	2451.2	2455.4	2480.2	2480.2
22.5°	2401.6	2405.8	2414.0	2438.8	2438.8
25°	2347.9	2356.2	2372.7	2393.4	2397.5
27.5°	2294.2	2298.3	2319.0	2347.9	2352.0
30°	2223.9	2236.3	2261.1	2294.2	2298.3
32.5°	2161.9	2174.3	2203.2	2236.3	2244.6
35°	2083.3	2099.9	2132.9	2174.3	2182.5
37.5°	2013.1	2025.5	2066.8	2112.3	2124.7
40°	1926.3	1951.1	1992.4	2046.1	2066.8
42.5°	1839.5	1864.3	1913.9	1984.1	2008.9
45°	1748.5	1777.5	1839.5	1918.0	1951.1
47.5°	1657.6	1690.6	1760.9	1851.9	1889.1
50°	1554.2	1595.6	1682.4	1785.7	1827.1
52.5°	1455.0	1504.6	1599.7	1715.4	1769.2
55°	1351.7	1401.3	1525.3	1645.2	1703.0
57.5°	1236.0	1302.1	1438.5	1574.9	1636.9
60°	1128.5	1190.5	1355.8	1504.6	1566.6
62.5°	1012.7	1095.4	1273.2	1430.2	1492.2
65°	892.9	983.8	1186.3	1343.4	1405.4
67.5°	785.4	884.6	1099.5	1256.6	1318.6
70°	657.2	781.3	1004.5	1161.5	1223.5
72.5°	537.4	673.8	905.3	1058.2	1116.1
75°	421.6	574.6	801.9	938.3	967.3
77.5°	314.2	475.4	694.4	752.3	731.6
80°	223.2	380.3	541.5	512.6	525.0
82.5°	144.7	289.4	334.8	380.3	392.7
85°	82.7	169.5	206.7	223.2	231.5
87.5°	37.2	62.0	82.7	82.7	78.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)