

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: P388326

Luminaire Tested: **24CZ2-110VHE-SQR-UNV-L940-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: P388326  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-110VHE-SQR-UNV-L940-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8883.2 lumens  
Efficiency: N/A  
Efficacy: 114.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

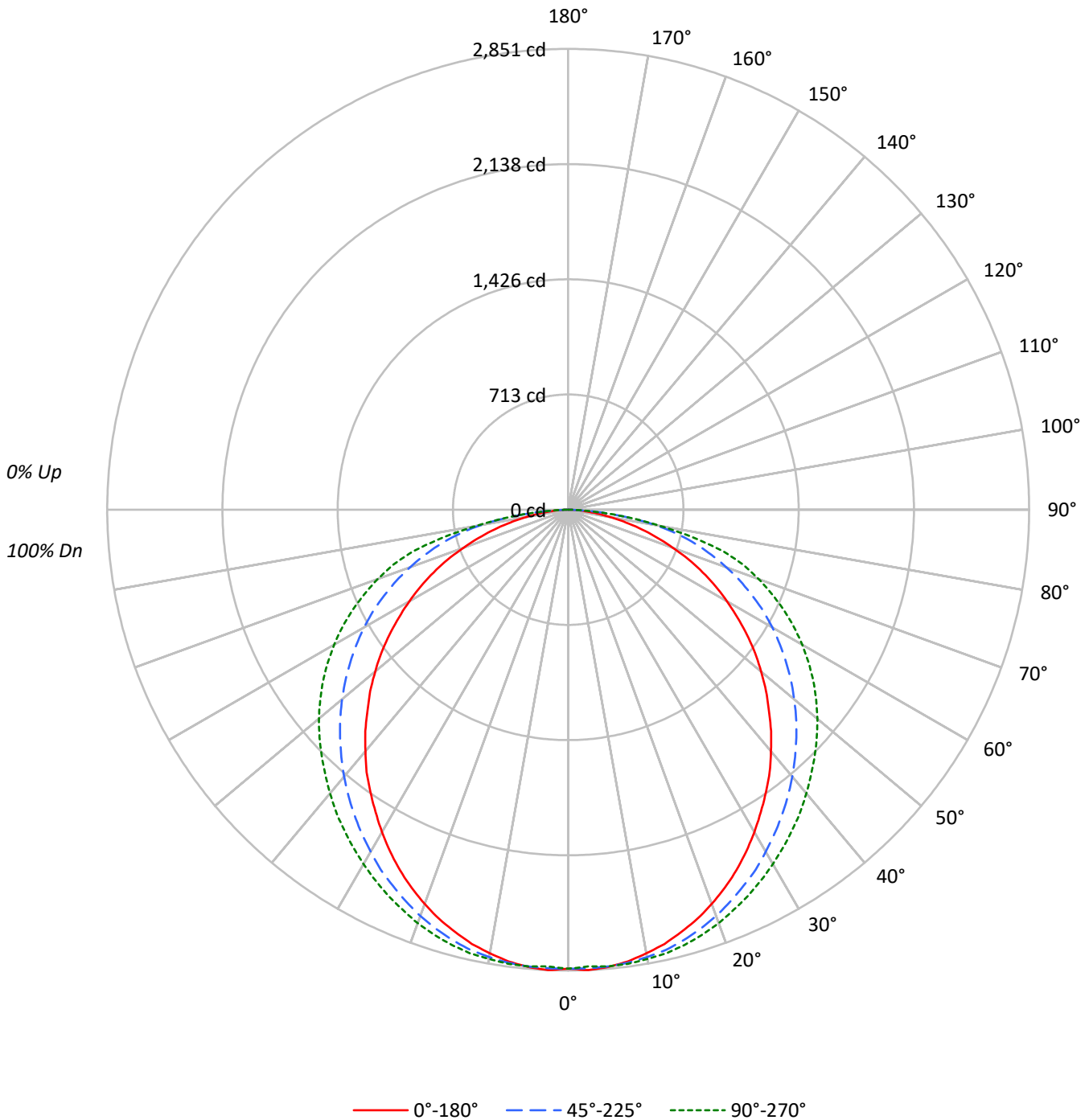
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	89	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3821	3821	3821
5°	3835	3831	3831
10°	3807	3839	3855
15°	3767	3841	3882
20°	3717	3830	3898
25°	3654	3810	3911
30°	3578	3796	3933
35°	3503	3787	3970
40°	3426	3787	4024
45°	3338	3796	4102
50°	3260	3819	4212
55°	3165	3860	4342
60°	3055	3923	4499
65°	2923	3997	4688
70°	2712	4096	4927
75°	2455	4239	5154
80°	2068	4250	4432
85°	1585	3216	3216



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	269.5	3.0
10°-20°	775.5	8.7
20°-30°	1177.9	13.3
30°-40°	1432.8	16.1
40°-50°	1525.4	17.2
50°-60°	1452.9	16.4
60°-70°	1215.0	13.7
70°-80°	810.1	9.1
80°-90°	224.1	2.5
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°	2222.9	25.0
0°-40°	3655.7	41.2
0°-60°	6634.0	74.7
0°-90°	8883.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8883.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2840	2840	2840	2840	2840	
5°	2840	2822	2837	2837	2837	269
15°	2705	2710	2757	2778	2787	763
25°	2461	2493	2567	2611	2634	1133
35°	2133	2194	2306	2382	2417	1335
45°	1754	1848	1995	2106	2156	1356
55°	1349	1467	1646	1789	1851	1206
65°	918	1053	1256	1411	1473	907
75°	472	622	816	953	992	500
85°	103	191	208	205	208	124
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2839.5	2839.5	2839.5	2839.5	2839.5
2.5°	2851.2	2830.7	2839.5	2839.5	2827.8
5°	2839.5	2821.9	2836.6	2836.6	2836.6
7.5°	2819.0	2804.3	2827.8	2833.6	2833.6
10°	2786.7	2780.8	2810.2	2819.0	2821.9
12.5°	2751.5	2748.6	2789.6	2801.4	2810.2
15°	2704.6	2710.4	2757.4	2777.9	2786.7
17.5°	2654.7	2666.4	2719.2	2748.6	2757.4
20°	2596.0	2613.6	2675.2	2704.6	2722.2
22.5°	2531.5	2557.9	2622.4	2657.6	2678.2
25°	2461.1	2493.4	2566.7	2610.7	2634.2
27.5°	2384.8	2425.9	2511.0	2560.8	2584.3
30°	2302.7	2349.6	2443.5	2502.2	2531.5
32.5°	2217.6	2273.4	2376.0	2440.6	2475.8
35°	2132.6	2194.2	2305.6	2381.9	2417.1
37.5°	2047.5	2109.1	2232.3	2314.4	2358.4
40°	1950.7	2024.0	2156.0	2247.0	2291.0
42.5°	1856.8	1936.0	2076.8	2176.6	2223.5
45°	1754.2	1848.0	1994.7	2106.2	2156.0
47.5°	1660.3	1754.2	1912.6	2029.9	2085.6
50°	1557.6	1657.4	1824.6	1953.6	2012.3
52.5°	1457.9	1560.6	1736.6	1874.4	1933.1
55°	1349.4	1466.7	1645.6	1789.4	1851.0
57.5°	1240.8	1367.0	1551.8	1701.4	1763.0
60°	1135.2	1264.3	1457.9	1607.5	1672.0
62.5°	1029.6	1158.7	1361.1	1513.6	1575.2
65°	918.1	1053.1	1255.5	1411.0	1472.6
67.5°	806.7	947.5	1149.9	1305.4	1364.0
70°	689.3	838.9	1041.3	1193.9	1252.5
72.5°	580.8	730.4	929.9	1079.5	1135.2
75°	472.3	621.9	815.5	953.3	991.5
77.5°	366.7	516.3	689.3	780.3	789.1
80°	266.9	407.7	548.5	574.9	572.0
82.5°	178.9	305.1	378.4	381.3	390.1
85°	102.7	190.7	208.3	205.3	208.3
87.5°	41.1	67.5	58.7	44.0	44.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)