

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: P390939

Luminaire Tested: **24CZ2-110VHE-HRP-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: P390939  
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-SDWPD1-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: 7851.4 lumens  
Efficiency: N/A  
Efficacy: 101.4 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

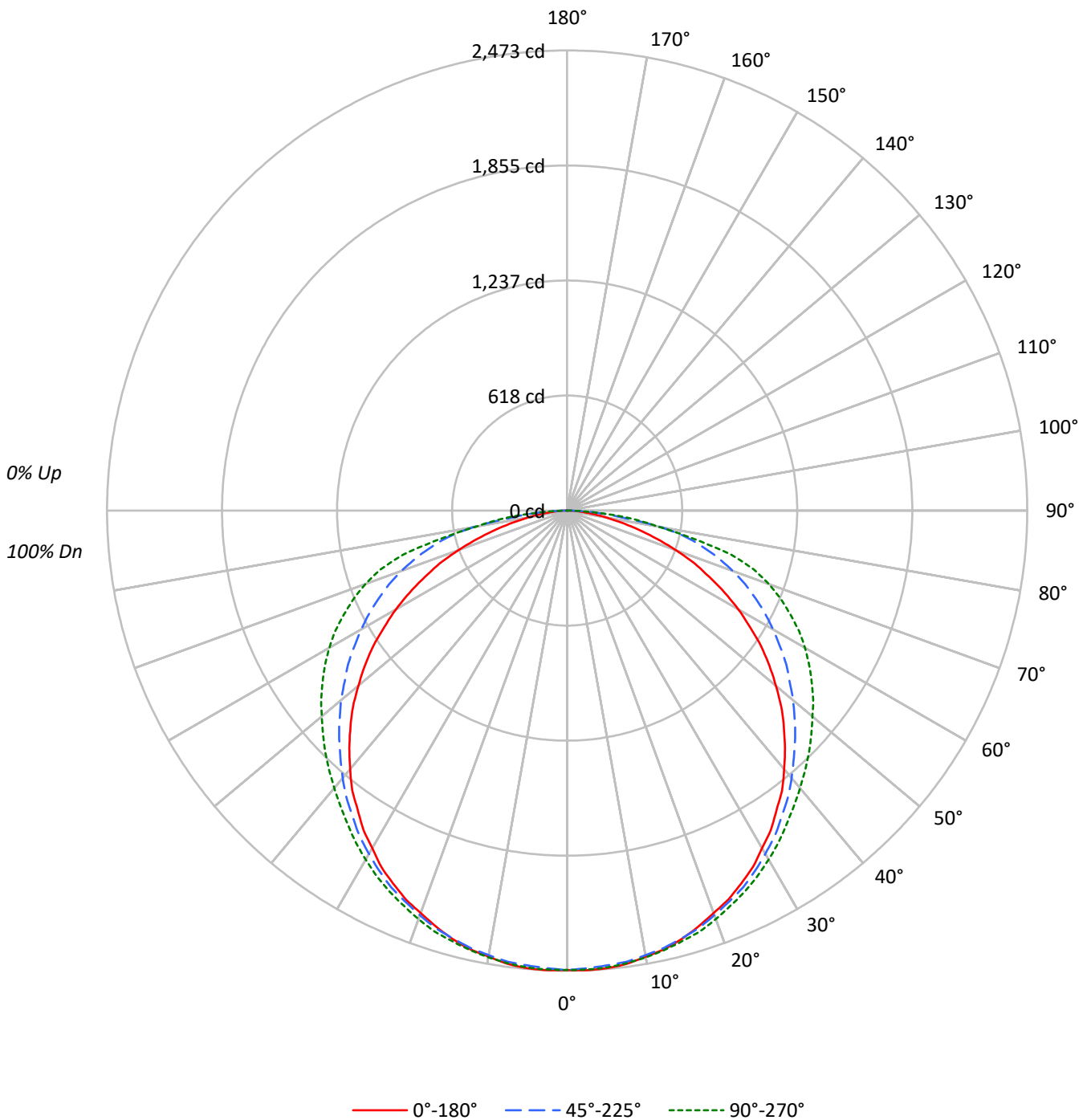
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P390939

CATALOG NUMBER: 24CZ2-110VHE-HRP-UNV-L940-CD2-SDWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P390939

CATALOG NUMBER: 24CZ2-110VHE-HRP-UNV-L940-CD2-SDWPD1-U

**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°	3322	3322	3322
5°	3335	3314	3329
10°	3325	3315	3331
15°	3320	3315	3336
20°	3296	3312	3346
25°	3284	3319	3353
30°	3255	3310	3364
35°	3224	3301	3377
40°	3188	3297	3420
45°	3134	3298	3498
50°	3065	3318	3603
55°	2987	3371	3764
60°	2861	3437	3972
65°	2678	3558	4216
70°	2436	3723	4535
75°	2065	3928	4737
80°	1629	3953	3832
85°	1203	3006	3367



TEST NUMBER: P390939

CATALOG NUMBER: 24CZ2-110VHE-HRP-UNV-L940-CD2-SDWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	234.2	3.0
10°-20°	674.1	8.6
20°-30°	1030.8	13.1
30°-40°	1260.1	16.0
40°-50°	1343.0	17.1
50°-60°	1284.1	16.4
60°-70°	1087.8	13.9
70°-80°	731.1	9.3
80°-90°	206.2	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°	1939.0	24.7
0°-40°	3199.2	40.7
0°-60°	5826.3	74.2
0°-90°	7851.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7851.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2469	2469	2469	2469	2469	
5°	2469	2465	2454	2465	2465	235
15°	2383	2383	2380	2399	2395	672
25°	2212	2220	2235	2255	2259	1020
35°	1963	1978	2010	2048	2056	1230
45°	1647	1675	1733	1807	1838	1271
55°	1274	1320	1437	1550	1604	1134
65°	841	927	1118	1266	1324	835
75°	397	541	756	884	911	425
85°	78	160	195	210	218	96
90°	0	0	0	0	0	



TEST NUMBER: P390939

CATALOG NUMBER: 24CZ2-110VHE-HRP-UNV-L940-CD2-SDWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2469.0	2469.0	2469.0	2469.0	2469.0
2.5°	2472.9	2472.9	2461.3	2469.0	2469.0
5°	2469.0	2465.1	2453.5	2465.1	2465.1
7.5°	2457.4	2453.5	2445.7	2457.4	2453.5
10°	2434.0	2434.0	2426.2	2437.9	2437.9
12.5°	2414.5	2410.6	2406.7	2422.3	2418.4
15°	2383.4	2383.4	2379.5	2398.9	2395.0
17.5°	2344.4	2348.3	2352.2	2367.8	2371.7
20°	2301.6	2309.4	2313.3	2336.6	2336.6
22.5°	2262.6	2266.5	2274.3	2297.7	2297.7
25°	2212.0	2219.8	2235.4	2254.8	2258.7
27.5°	2161.4	2165.3	2184.8	2212.0	2215.9
30°	2095.2	2106.9	2130.2	2161.4	2165.3
32.5°	2036.8	2048.4	2075.7	2106.9	2114.7
35°	1962.8	1978.3	2009.5	2048.4	2056.2
37.5°	1896.6	1908.2	1947.2	1990.0	2001.7
40°	1814.8	1838.2	1877.1	1927.7	1947.2
42.5°	1733.0	1756.4	1803.1	1869.3	1892.7
45°	1647.3	1674.6	1733.0	1807.0	1838.2
47.5°	1561.6	1592.8	1659.0	1744.7	1779.7
50°	1464.3	1503.2	1585.0	1682.4	1721.3
52.5°	1370.8	1417.6	1507.1	1616.2	1666.8
55°	1273.5	1320.2	1437.0	1550.0	1604.5
57.5°	1164.4	1226.7	1355.2	1483.8	1542.2
60°	1063.2	1121.6	1277.4	1417.6	1476.0
62.5°	954.1	1032.0	1199.5	1347.5	1405.9
65°	841.2	926.9	1117.7	1265.7	1324.1
67.5°	739.9	833.4	1035.9	1183.9	1242.3
70°	619.2	736.0	946.3	1094.3	1152.7
72.5°	506.3	634.8	852.9	997.0	1051.5
75°	397.2	541.3	755.5	884.0	911.3
77.5°	296.0	447.9	654.3	708.8	689.3
80°	210.3	358.3	510.2	482.9	494.6
82.5°	136.3	272.6	315.4	358.3	370.0
85°	77.9	159.7	194.7	210.3	218.1
87.5°	35.0	58.4	77.9	77.9	74.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)