

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: P388327

Luminaire Tested: **24CZ2-110VHE-SQR-UNV-L940-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: P388327
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-SWPD1-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: 8991.7 lumens
Efficiency: N/A
Efficacy: 116.2 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

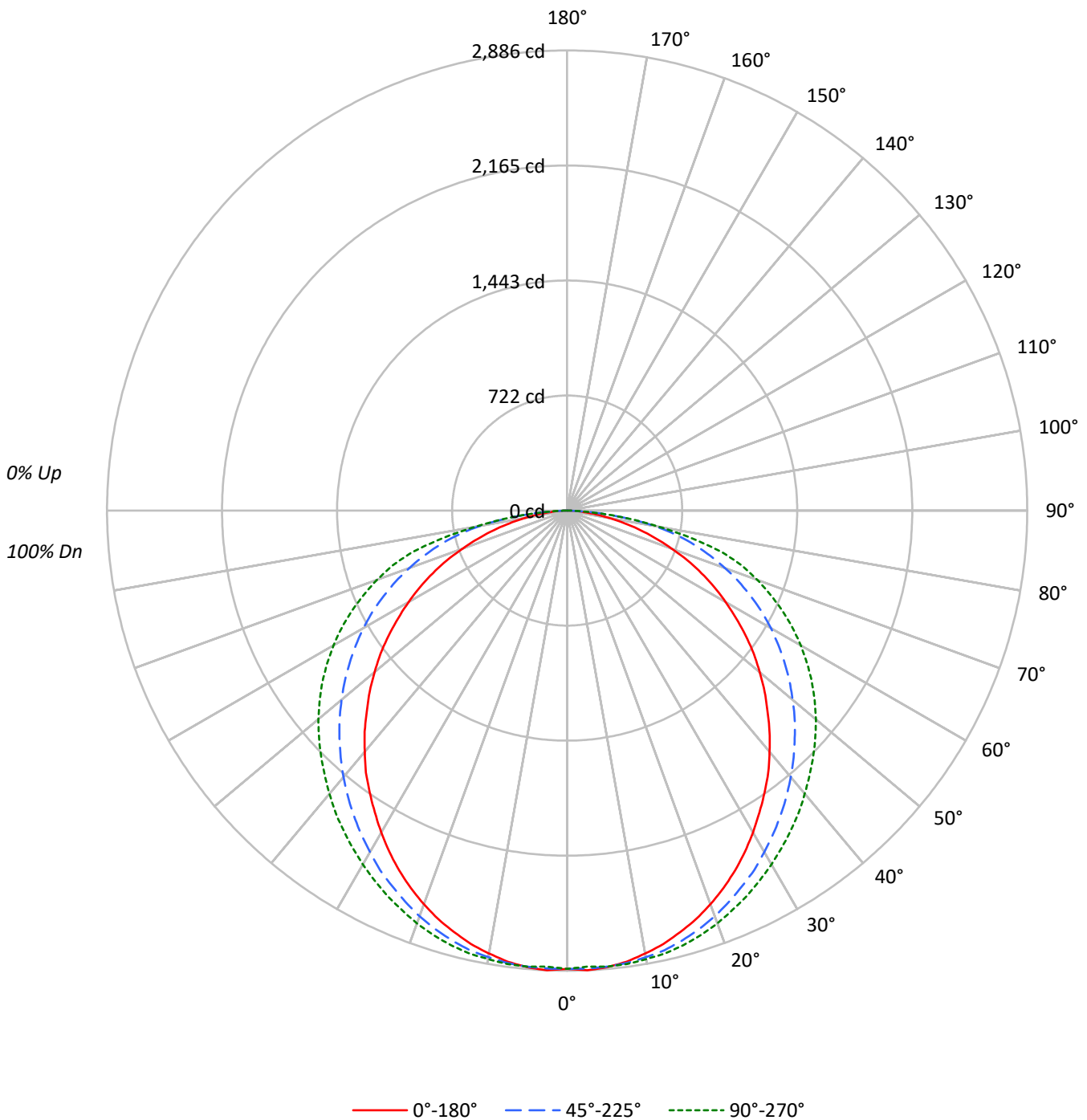
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3867	3867	3867
5°	3882	3878	3878
10°	3854	3886	3903
15°	3813	3888	3929
20°	3762	3877	3945
25°	3698	3857	3958
30°	3621	3843	3981
35°	3546	3833	4019
40°	3468	3833	4073
45°	3379	3842	4153
50°	3300	3866	4264
55°	3204	3907	4395
60°	3092	3971	4554
65°	2959	4046	4745
70°	2745	4147	4987
75°	2485	4291	5217
80°	2094	4302	4486
85°	1604	3254	3254



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	272.8	3.0
10°-20°	784.9	8.7
20°-30°	1192.3	13.3
30°-40°	1450.3	16.1
40°-50°	1544.1	17.2
50°-60°	1470.6	16.4
60°-70°	1229.9	13.7
70°-80°	820.0	9.1
80°-90°	226.9	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°	2250.1	25.0
0°-40°	3700.3	41.2
0°-60°	6715.0	74.7
0°-90°	8991.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8991.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2874	2874	2874	2874	2874	
5°	2874	2856	2871	2871	2871	273
15°	2738	2744	2791	2812	2821	772
25°	2491	2524	2598	2643	2666	1147
35°	2159	2221	2334	2411	2447	1351
45°	1776	1871	2019	2132	2182	1373
55°	1366	1485	1666	1811	1874	1221
65°	929	1066	1271	1428	1490	918
75°	478	630	825	965	1004	506
85°	104	193	211	208	211	126
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2874.2	2874.2	2874.2	2874.2	2874.2
2.5°	2886.1	2865.3	2874.2	2874.2	2862.3
5°	2874.2	2856.4	2871.2	2871.2	2871.2
7.5°	2853.4	2838.6	2862.3	2868.2	2868.2
10°	2820.7	2814.8	2844.5	2853.4	2856.4
12.5°	2785.1	2782.1	2823.7	2835.6	2844.5
15°	2737.6	2743.5	2791.0	2811.8	2820.7
17.5°	2687.1	2699.0	2752.4	2782.1	2791.0
20°	2627.7	2645.6	2707.9	2737.6	2755.4
22.5°	2562.4	2589.1	2654.5	2690.1	2710.9
25°	2491.2	2523.8	2598.0	2642.6	2666.3
27.5°	2414.0	2455.5	2541.6	2592.1	2615.9
30°	2330.8	2378.3	2473.3	2532.7	2562.4
32.5°	2244.7	2301.1	2405.1	2470.4	2506.0
35°	2158.6	2221.0	2333.8	2411.0	2446.6
37.5°	2072.5	2134.9	2259.6	2342.7	2387.2
40°	1974.5	2048.7	2182.4	2274.4	2318.9
42.5°	1879.5	1959.7	2102.2	2203.1	2250.7
45°	1775.6	1870.6	2019.1	2131.9	2182.4
47.5°	1680.6	1775.6	1935.9	2054.7	2111.1
50°	1576.6	1677.6	1846.8	1977.5	2036.9
52.5°	1475.7	1579.6	1757.8	1897.3	1956.7
55°	1365.8	1484.6	1665.7	1811.2	1873.6
57.5°	1256.0	1383.6	1570.7	1722.1	1784.5
60°	1149.1	1279.7	1475.7	1627.1	1692.4
62.5°	1042.2	1172.8	1377.7	1532.1	1594.5
65°	929.4	1065.9	1270.8	1428.2	1490.5
67.5°	816.5	959.1	1163.9	1321.3	1380.7
70°	697.8	849.2	1054.1	1208.5	1267.8
72.5°	587.9	739.3	941.2	1092.7	1149.1
75°	478.0	629.5	825.4	965.0	1003.6
77.5°	371.1	522.6	697.8	789.8	798.7
80°	270.2	412.7	555.2	582.0	579.0
82.5°	181.1	308.8	383.0	386.0	394.9
85°	103.9	193.0	210.8	207.8	210.8
87.5°	41.6	68.3	59.4	44.5	44.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)