

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: P388323

Luminaire Tested: **24CZ2-110VHE-SQR-UNV-L935-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: P388323
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-L935-CD2-SDWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8792.3 lumens
Efficiency: N/A
Efficacy: 113.6 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

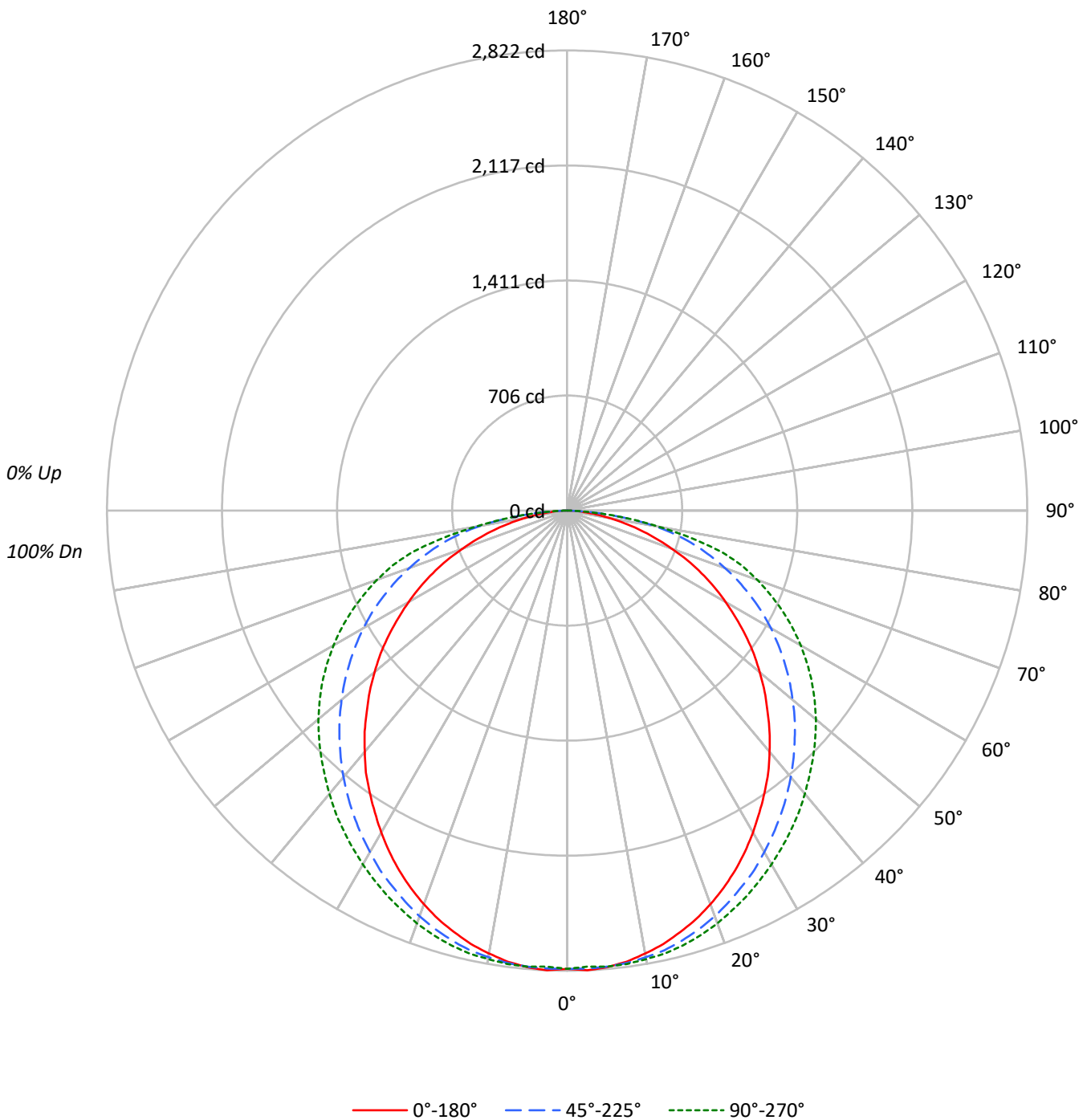
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3781	3781	3781
5°	3796	3792	3792
10°	3768	3800	3816
15°	3729	3802	3842
20°	3679	3791	3858
25°	3616	3771	3871
30°	3541	3757	3893
35°	3467	3748	3930
40°	3391	3748	3983
45°	3304	3757	4061
50°	3227	3780	4169
55°	3133	3821	4297
60°	3024	3883	4453
65°	2893	3956	4640
70°	2684	4055	4877
75°	2430	4196	5101
80°	2047	4207	4387
85°	1568	3182	3182



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.8	3.0
10°-20°	767.5	8.7
20°-30°	1165.8	13.3
30°-40°	1418.1	16.1
40°-50°	1509.8	17.2
50°-60°	1438.0	16.4
60°-70°	1202.6	13.7
70°-80°	801.8	9.1
80°-90°	221.8	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°	2200.2	25.0
0°-40°	3618.2	41.2
0°-60°	6566.1	74.7
0°-90°	8792.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8792.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2810	2810	2810	2810	2810	
5°	2810	2793	2808	2808	2808	267
15°	2677	2683	2729	2750	2758	755
25°	2436	2468	2540	2584	2607	1122
35°	2111	2172	2282	2358	2392	1321
45°	1736	1829	1974	2085	2134	1342
55°	1336	1452	1629	1771	1832	1194
65°	909	1042	1243	1396	1458	898
75°	467	616	807	944	981	495
85°	102	189	206	203	206	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2810.4	2810.4	2810.4	2810.4	2810.4
2.5°	2822.1	2801.7	2810.4	2810.4	2798.8
5°	2810.4	2793.0	2807.5	2807.5	2807.5
7.5°	2790.1	2775.6	2798.8	2804.6	2804.6
10°	2758.2	2752.4	2781.4	2790.1	2793.0
12.5°	2723.3	2720.4	2761.1	2772.7	2781.4
15°	2676.9	2682.7	2729.2	2749.5	2758.2
17.5°	2627.5	2639.1	2691.4	2720.4	2729.2
20°	2569.5	2586.9	2647.9	2676.9	2694.3
22.5°	2505.6	2531.7	2595.6	2630.4	2650.8
25°	2435.9	2467.9	2540.4	2584.0	2607.2
27.5°	2360.4	2401.1	2485.3	2534.6	2557.9
30°	2279.1	2325.6	2418.5	2476.6	2505.6
32.5°	2194.9	2250.1	2351.7	2415.6	2450.4
35°	2110.7	2171.7	2282.0	2357.5	2392.4
37.5°	2026.5	2087.5	2209.5	2290.7	2334.3
40°	1930.7	2003.3	2134.0	2224.0	2267.5
42.5°	1837.8	1916.2	2055.6	2154.3	2200.7
45°	1736.2	1829.1	1974.3	2084.6	2134.0
47.5°	1643.3	1736.2	1893.0	2009.1	2064.3
50°	1541.7	1640.4	1805.9	1933.6	1991.7
52.5°	1443.0	1544.6	1718.8	1855.2	1913.3
55°	1335.5	1451.7	1628.8	1771.0	1832.0
57.5°	1228.1	1353.0	1535.9	1683.9	1744.9
60°	1123.6	1251.3	1443.0	1591.0	1654.9
62.5°	1019.1	1146.8	1347.2	1498.1	1559.1
65°	908.7	1042.3	1242.6	1396.5	1457.5
67.5°	798.4	937.8	1138.1	1292.0	1350.1
70°	682.3	830.4	1030.7	1181.7	1239.7
72.5°	574.9	722.9	920.4	1068.4	1123.6
75°	467.4	615.5	807.1	943.6	981.3
77.5°	362.9	511.0	682.3	772.3	781.0
80°	264.2	403.6	542.9	569.1	566.2
82.5°	177.1	301.9	374.5	377.4	386.1
85°	101.6	188.7	206.1	203.2	206.1
87.5°	40.6	66.8	58.1	43.6	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)