

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: P390938

Luminaire Tested: **24CZ2-110VHE-HRP-UNV-L935-CD2-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: P390938
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-L935-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7964.7 lumens
Efficiency: N/A
Efficacy: 102.9 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

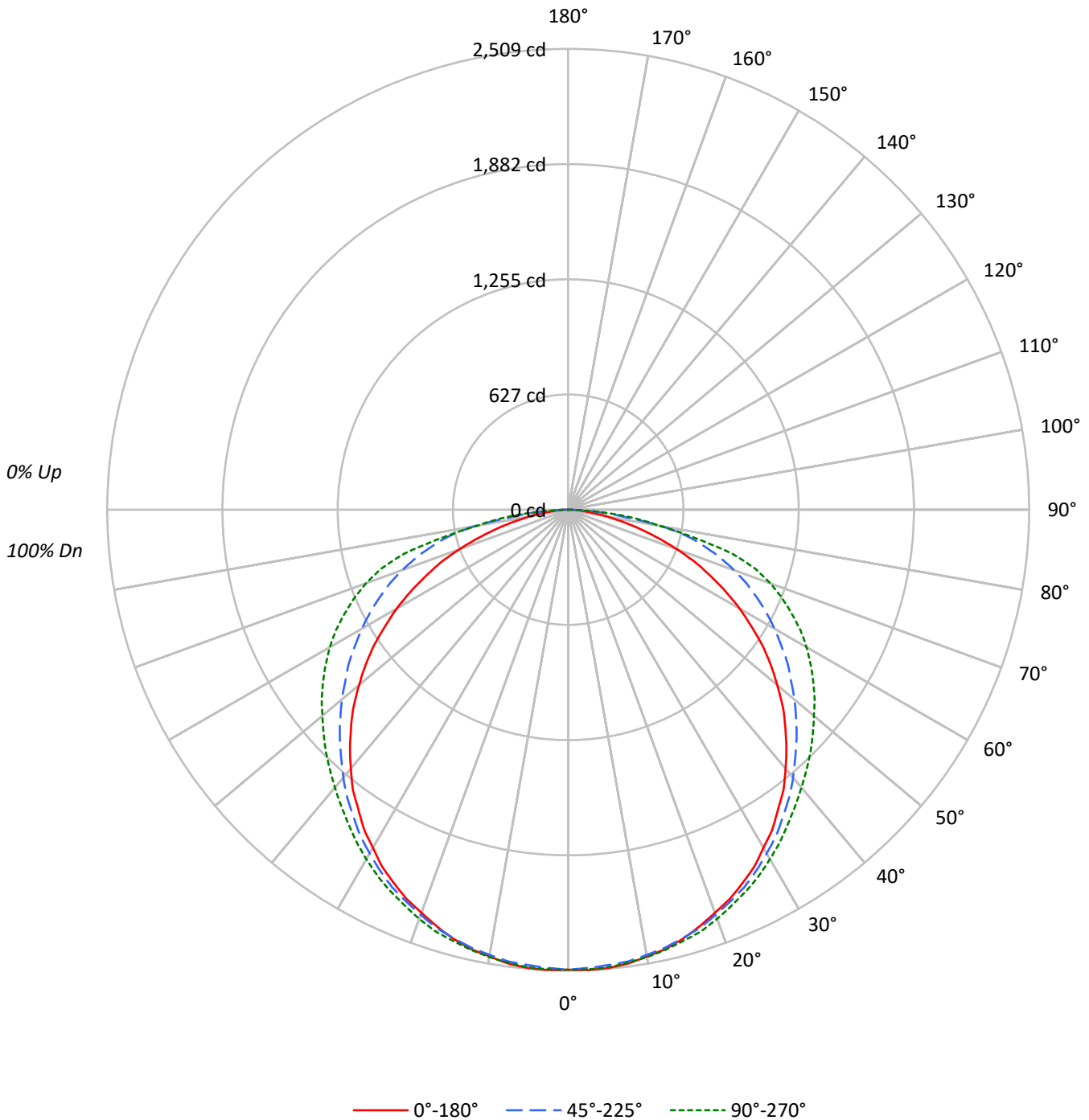
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3370	3370	3370
5°	3383	3362	3378
10°	3373	3363	3379
15°	3368	3362	3384
20°	3343	3360	3394
25°	3331	3366	3402
30°	3302	3357	3413
35°	3270	3348	3426
40°	3234	3345	3469
45°	3180	3345	3548
50°	3109	3366	3655
55°	3030	3420	3818
60°	2902	3487	4029
65°	2717	3610	4276
70°	2471	3777	4600
75°	2095	3984	4806
80°	1653	4010	3887
85°	1220	3049	3415



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.6	3.0
10°-20°	683.8	8.6
20°-30°	1045.6	13.1
30°-40°	1278.3	16.0
40°-50°	1362.4	17.1
50°-60°	1302.6	16.4
60°-70°	1103.5	13.9
70°-80°	741.6	9.3
80°-90°	209.2	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°	1967.0	24.7
0°-40°	3245.3	40.7
0°-60°	5910.4	74.2
0°-90°	7964.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7964.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2505	2505	2505	2505	2505	
5°	2505	2501	2489	2501	2501	238
15°	2418	2418	2414	2434	2430	682
25°	2244	2252	2268	2287	2291	1034
35°	1991	2007	2038	2078	2086	1247
45°	1671	1699	1758	1833	1865	1289
55°	1292	1339	1458	1572	1628	1151
65°	853	940	1134	1284	1343	847
75°	403	549	766	897	924	431
85°	79	162	198	213	221	98
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2504.7	2504.7	2504.7	2504.7	2504.7
2.5°	2508.6	2508.6	2496.8	2504.7	2504.7
5°	2504.7	2500.7	2488.9	2500.7	2500.7
7.5°	2492.8	2488.9	2481.0	2492.8	2488.9
10°	2469.1	2469.1	2461.2	2473.1	2473.1
12.5°	2449.4	2445.4	2441.5	2457.3	2453.3
15°	2417.8	2417.8	2413.8	2433.6	2429.6
17.5°	2378.3	2382.2	2386.2	2402.0	2405.9
20°	2334.8	2342.7	2346.6	2370.4	2370.4
22.5°	2295.3	2299.2	2307.1	2330.8	2330.8
25°	2243.9	2251.8	2267.6	2287.4	2291.3
27.5°	2192.6	2196.5	2216.3	2243.9	2247.9
30°	2125.4	2137.3	2161.0	2192.6	2196.5
32.5°	2066.2	2078.0	2105.7	2137.3	2145.2
35°	1991.1	2006.9	2038.5	2078.0	2085.9
37.5°	1923.9	1935.8	1975.3	2018.7	2030.6
40°	1841.0	1864.7	1904.2	1955.5	1975.3
42.5°	1758.0	1781.7	1829.1	1896.3	1920.0
45°	1671.1	1698.8	1758.0	1833.1	1864.7
47.5°	1584.2	1615.8	1682.9	1769.9	1805.4
50°	1485.4	1524.9	1607.9	1706.7	1746.2
52.5°	1390.6	1438.0	1528.9	1639.5	1690.9
55°	1291.8	1339.2	1457.8	1572.3	1627.6
57.5°	1181.2	1244.4	1374.8	1505.2	1564.4
60°	1078.5	1137.8	1295.8	1438.0	1497.3
62.5°	967.9	1046.9	1216.8	1366.9	1426.2
65°	853.3	940.2	1133.8	1283.9	1343.2
67.5°	750.6	845.4	1050.9	1201.0	1260.2
70°	628.1	746.7	960.0	1110.1	1169.4
72.5°	513.6	643.9	865.2	1011.3	1066.7
75°	403.0	549.1	766.4	896.8	924.4
77.5°	300.2	454.3	663.7	719.0	699.3
80°	213.3	363.5	517.5	489.9	501.7
82.5°	138.3	276.5	320.0	363.5	375.3
85°	79.0	162.0	197.5	213.3	221.2
87.5°	35.6	59.3	79.0	79.0	75.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)