

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: P390933

Luminaire Tested: **24CZ2-110VHE-HRP-UNV-L930-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: P390933
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-L930-CD2-SDWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7583.4 lumens
Efficiency: N/A
Efficacy: 98.0 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

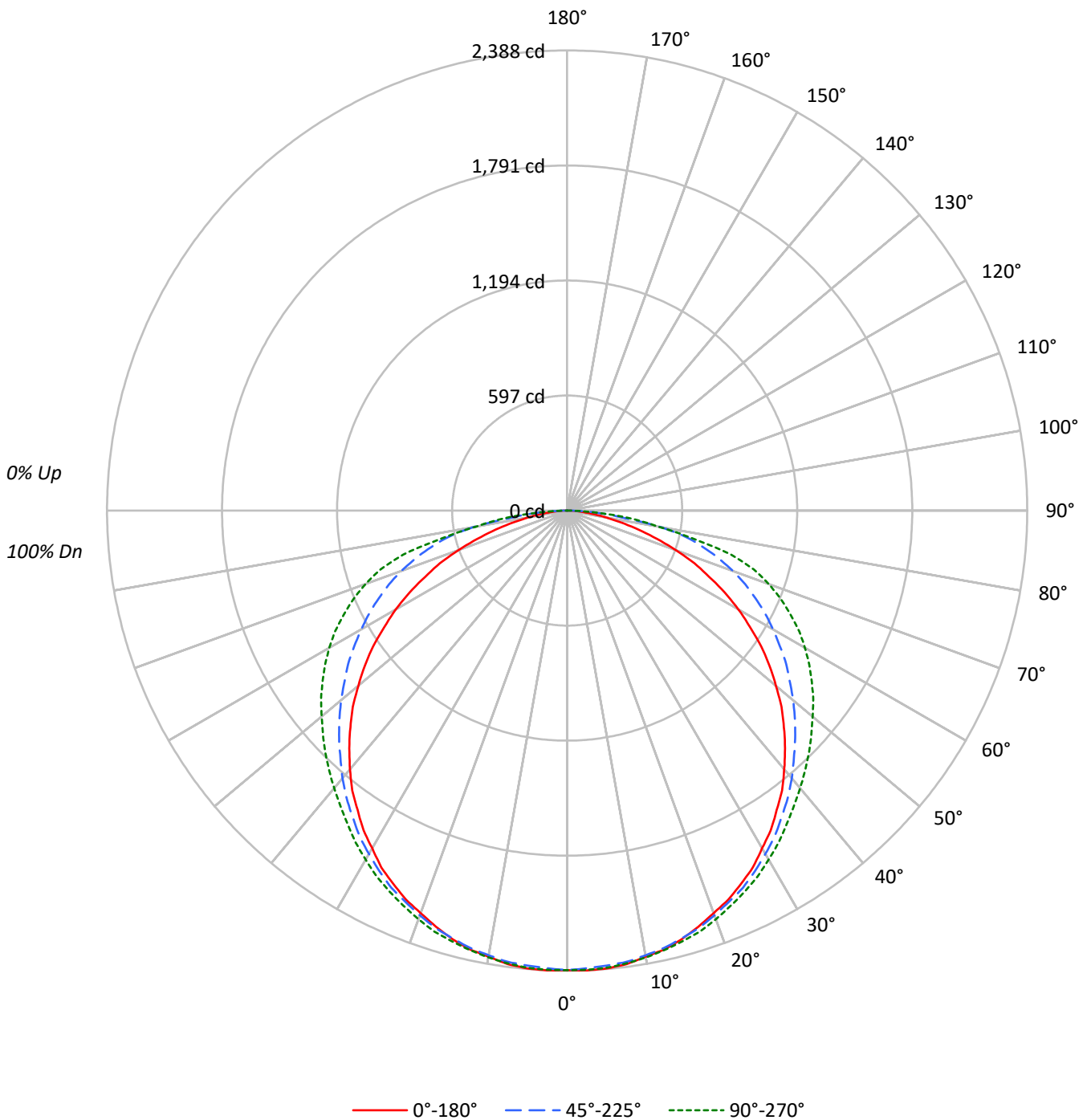
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82					82			
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67					67			
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47					47			
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40					40			
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35					35			
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27					27			
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24					24			
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22					22			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3209	3209	3209
5°	3221	3201	3216
10°	3212	3202	3217
15°	3207	3201	3222
20°	3183	3199	3232
25°	3172	3205	3239
30°	3144	3197	3249
35°	3114	3188	3262
40°	3079	3184	3303
45°	3028	3185	3378
50°	2960	3204	3480
55°	2885	3256	3635
60°	2763	3320	3836
65°	2587	3437	4072
70°	2353	3596	4380
75°	1995	3793	4576
80°	1574	3818	3701
85°	1161	2904	3251



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.2	3.0
10°-20°	651.1	8.6
20°-30°	995.6	13.1
30°-40°	1217.1	16.0
40°-50°	1297.2	17.1
50°-60°	1240.3	16.4
60°-70°	1050.7	13.9
70°-80°	706.1	9.3
80°-90°	199.2	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°	1872.9	24.7
0°-40°	3090.0	40.7
0°-60°	5627.4	74.2
0°-90°	7583.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7583.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2385	2385	2385	2385	2385	
5°	2385	2381	2370	2381	2381	227
15°	2302	2302	2298	2317	2313	649
25°	2136	2144	2159	2178	2182	985
35°	1896	1911	1941	1978	1986	1188
45°	1591	1617	1674	1745	1775	1227
55°	1230	1275	1388	1497	1550	1096
65°	812	895	1080	1222	1279	807
75°	384	523	730	854	880	411
85°	75	154	188	203	211	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2384.8	2384.8	2384.8	2384.8	2384.8
2.5°	2388.5	2388.5	2377.2	2384.8	2384.8
5°	2384.8	2381.0	2369.7	2381.0	2381.0
7.5°	2373.5	2369.7	2362.2	2373.5	2369.7
10°	2350.9	2350.9	2343.4	2354.7	2354.7
12.5°	2332.1	2328.3	2324.6	2339.6	2335.9
15°	2302.0	2302.0	2298.2	2317.1	2313.3
17.5°	2264.4	2268.2	2271.9	2287.0	2290.7
20°	2223.0	2230.5	2234.3	2256.9	2256.9
22.5°	2185.4	2189.2	2196.7	2219.3	2219.3
25°	2136.5	2144.0	2159.1	2177.9	2181.6
27.5°	2087.6	2091.4	2110.2	2136.5	2140.3
30°	2023.7	2034.9	2057.5	2087.6	2091.4
32.5°	1967.2	1978.5	2004.9	2034.9	2042.5
35°	1895.8	1910.8	1940.9	1978.5	1986.0
37.5°	1831.8	1843.1	1880.7	1922.1	1933.4
40°	1752.8	1775.4	1813.0	1861.9	1880.7
42.5°	1673.8	1696.4	1741.6	1805.5	1828.1
45°	1591.1	1617.4	1673.8	1745.3	1775.4
47.5°	1508.3	1538.4	1602.4	1685.1	1719.0
50°	1414.3	1451.9	1530.9	1624.9	1662.6
52.5°	1324.0	1369.2	1455.7	1561.0	1609.9
55°	1230.0	1275.1	1388.0	1497.1	1549.7
57.5°	1124.7	1184.9	1309.0	1433.1	1489.5
60°	1026.9	1083.3	1233.8	1369.2	1425.6
62.5°	921.6	996.8	1158.5	1301.5	1357.9
65°	812.5	895.2	1079.5	1222.5	1278.9
67.5°	714.7	805.0	1000.5	1143.5	1199.9
70°	598.1	710.9	914.0	1057.0	1113.4
72.5°	489.0	613.1	823.8	962.9	1015.6
75°	383.7	522.8	729.7	853.9	880.2
77.5°	285.9	432.6	631.9	684.6	665.8
80°	203.1	346.1	492.8	466.4	477.7
82.5°	131.7	263.3	304.7	346.1	357.3
85°	75.2	154.2	188.1	203.1	210.6
87.5°	33.9	56.4	75.2	75.2	71.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)