

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: P388613

Luminaire Tested: **24CZ2-110VHE-UNV-L940-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: P388613
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-UNV-L940-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9480.2 lumens
Efficiency: N/A
Efficacy: 122.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

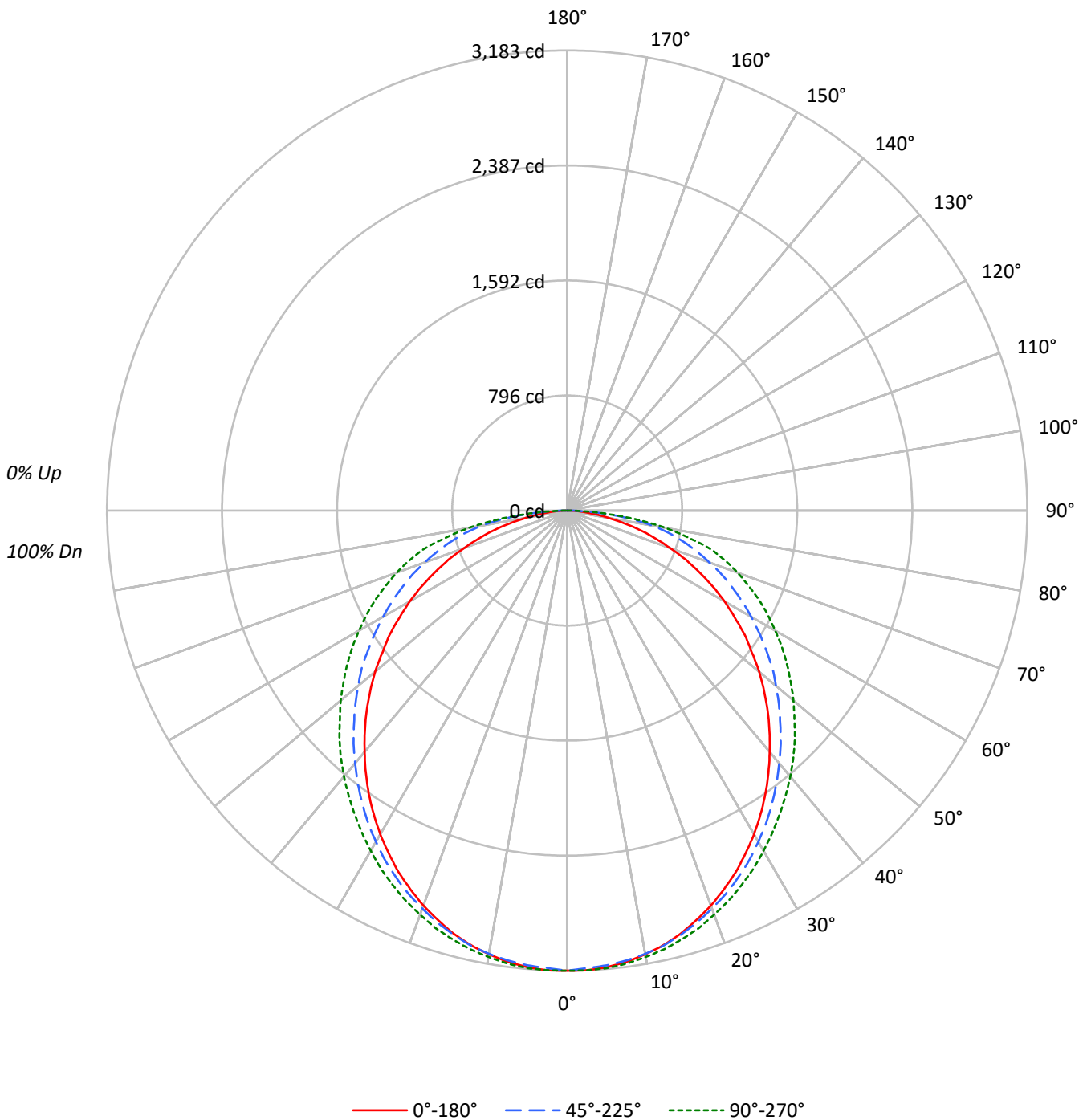
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	82	76	95	87	80	75	83	78	73		80	75	71		77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	60		68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51		62	56	51		60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39		50	44	38		49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34		46	39	34		45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30		42	35	30		41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27		39	32	27		38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25		36	29	25		35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4283	4283	4283
5°	4282	4265	4290
10°	4258	4254	4284
15°	4222	4231	4275
20°	4163	4195	4258
25°	4096	4157	4242
30°	4016	4110	4222
35°	3929	4059	4209
40°	3829	4007	4218
45°	3733	3967	4238
50°	3629	3947	4278
55°	3518	3941	4357
60°	3380	3959	4470
65°	3203	4019	4664
70°	2975	4120	4929
75°	2714	4326	5346
80°	2231	4658	5344
85°	1709	4298	4591



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	301.0	3.2
10°-20°	859.4	9.1
20°-30°	1293.3	13.6
30°-40°	1549.9	16.3
40°-50°	1615.1	17.0
50°-60°	1502.7	15.9
60°-70°	1237.6	13.1
70°-80°	842.9	8.9
80°-90°	278.3	2.9
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°	2453.7	25.9
0°-40°	4003.6	42.2
0°-60°	7121.4	75.1
0°-90°	9480.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9480.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3183	3183	3183	3183	3183	
5°	3170	3170	3158	3174	3177	301
15°	3031	3034	3037	3066	3069	854
25°	2759	2772	2800	2848	2857	1270
35°	2392	2420	2471	2538	2563	1495
45°	1962	2003	2085	2190	2227	1513
55°	1500	1550	1680	1813	1857	1337
65°	1006	1092	1262	1411	1465	999
75°	522	639	832	981	1028	550
85°	111	215	278	297	297	137
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3182.9	3182.9	3182.9	3182.9	3182.9
2.5°	3182.9	3182.9	3167.1	3182.9	3182.9
5°	3170.3	3170.3	3157.6	3173.5	3176.6
7.5°	3148.1	3151.3	3138.6	3157.6	3160.8
10°	3116.5	3119.7	3113.3	3132.3	3135.5
12.5°	3078.5	3081.7	3081.7	3103.8	3107.0
15°	3031.1	3034.2	3037.4	3065.9	3069.0
17.5°	2971.0	2980.5	2986.8	3021.6	3027.9
20°	2907.7	2917.2	2929.8	2967.8	2974.1
22.5°	2834.9	2847.6	2869.7	2910.8	2920.3
25°	2759.0	2771.6	2800.1	2847.6	2857.1
27.5°	2673.5	2692.5	2727.3	2778.0	2790.6
30°	2585.0	2603.9	2645.1	2698.9	2717.8
32.5°	2490.0	2515.3	2562.8	2622.9	2641.9
35°	2392.0	2420.4	2471.1	2537.5	2562.8
37.5°	2287.5	2319.2	2379.3	2452.1	2483.7
40°	2180.0	2217.9	2281.2	2366.6	2401.4
42.5°	2072.4	2107.2	2186.3	2278.1	2316.0
45°	1961.7	2002.8	2085.0	2189.5	2227.4
47.5°	1847.8	1888.9	1987.0	2097.7	2132.5
50°	1733.9	1775.0	1885.7	2002.8	2043.9
52.5°	1610.5	1664.2	1790.8	1907.9	1949.0
55°	1499.7	1550.3	1680.1	1812.9	1857.2
57.5°	1373.2	1433.3	1575.7	1714.9	1762.3
60°	1256.1	1319.4	1471.2	1613.6	1661.1
62.5°	1135.9	1205.5	1366.8	1512.4	1566.2
65°	1006.1	1091.6	1262.4	1411.1	1464.9
67.5°	889.1	977.7	1158.0	1309.9	1357.3
70°	756.2	863.8	1047.3	1199.1	1252.9
72.5°	642.3	749.9	942.9	1091.6	1145.4
75°	522.1	639.1	832.1	980.8	1028.3
77.5°	401.8	531.5	724.5	838.4	854.3
80°	287.9	424.0	601.2	667.6	689.7
82.5°	202.5	325.9	443.0	487.2	499.9
85°	110.7	215.1	278.4	297.4	297.4
87.5°	47.5	91.8	110.7	113.9	117.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)