

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: P389549

Luminaire Tested: **24CZ2-110VHE-S-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: P389549
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-S-UNV-L940-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9961.2 lumens
Efficiency: N/A
Efficacy: 128.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

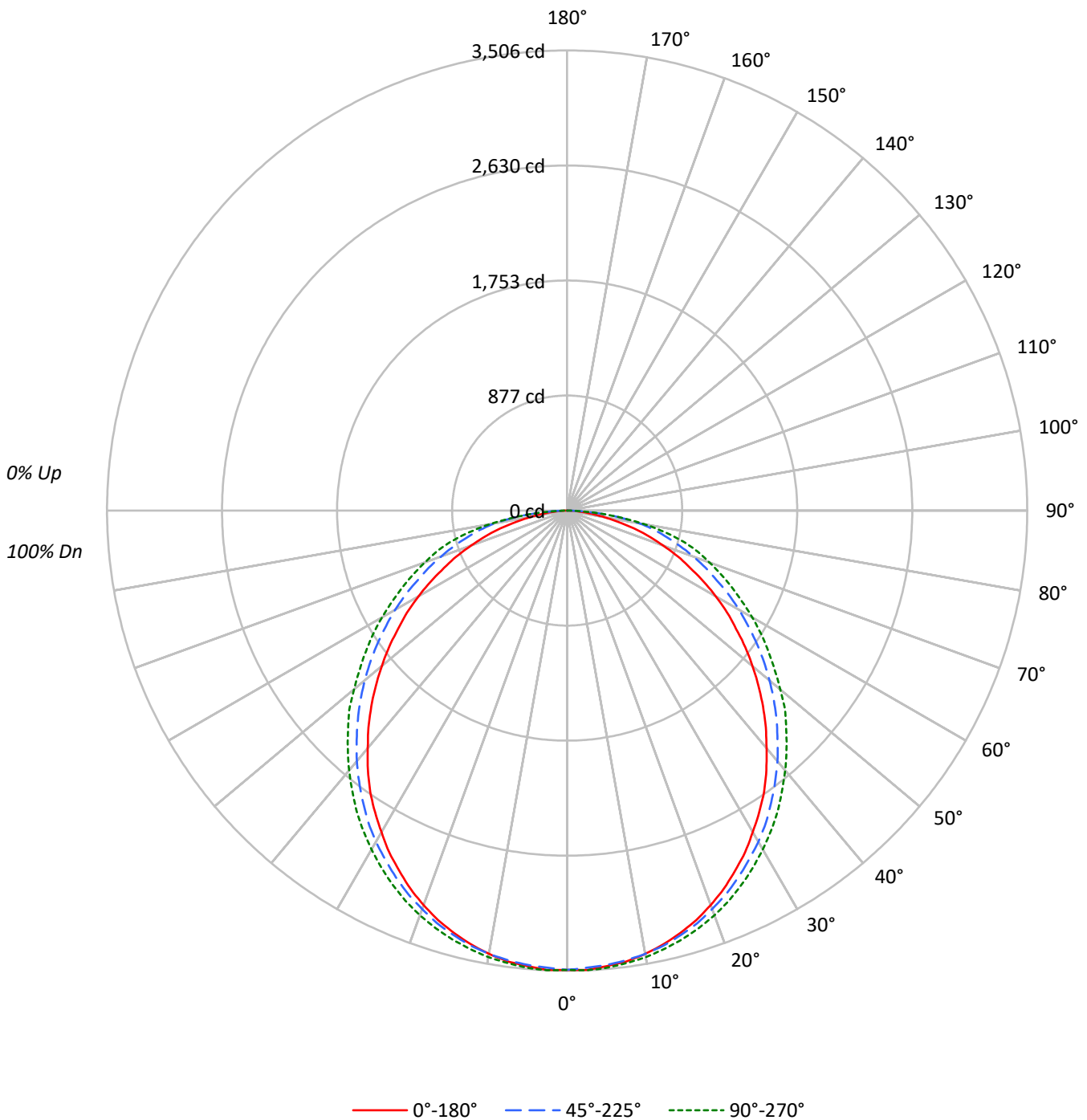
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4708	4708	4708
5°	4705	4692	4722
10°	4686	4686	4721
15°	4641	4663	4712
20°	4580	4626	4698
25°	4495	4580	4669
30°	4395	4527	4631
35°	4298	4454	4594
40°	4151	4379	4540
45°	4016	4293	4491
50°	3861	4212	4437
55°	3689	4134	4394
60°	3517	4070	4385
65°	3294	3999	4412
70°	3050	4020	4531
75°	2730	4095	4786
80°	2207	4339	4682
85°	1661	3810	3713



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.3	3.3
10°-20°	946.6	9.5
20°-30°	1423.0	14.3
30°-40°	1695.0	17.0
40°-50°	1734.8	17.4
50°-60°	1561.8	15.7
60°-70°	1226.5	12.3
70°-80°	796.0	8.0
80°-90°	246.2	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°	2700.9	27.1
0°-40°	4395.9	44.1
0°-60°	7692.5	77.2
0°-90°	9961.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9961.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3499	3499	3499	3499	3499	
5°	3484	3490	3474	3493	3496	331
15°	3332	3341	3348	3376	3382	939
25°	3028	3053	3085	3136	3145	1395
35°	2617	2648	2712	2778	2797	1632
45°	2110	2161	2256	2341	2360	1627
55°	1572	1642	1762	1854	1873	1410
65°	1035	1114	1256	1360	1386	1030
75°	525	626	788	895	921	556
85°	108	199	247	240	240	130
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3499.4	3499.4	3499.4	3499.4	3499.4
2.5°	3502.6	3502.6	3486.8	3502.6	3505.8
5°	3483.6	3489.9	3474.1	3493.1	3496.3
7.5°	3464.6	3464.6	3455.1	3474.1	3477.3
10°	3429.8	3433.0	3429.8	3452.0	3455.1
12.5°	3385.5	3391.9	3395.0	3417.2	3420.3
15°	3331.7	3341.2	3347.6	3376.0	3382.4
17.5°	3271.6	3281.1	3296.9	3328.6	3334.9
20°	3198.9	3211.5	3230.5	3271.6	3281.1
22.5°	3119.7	3132.4	3164.0	3202.0	3217.8
25°	3028.0	3053.3	3084.9	3135.6	3145.1
27.5°	2936.2	2958.4	2999.5	3053.3	3066.0
30°	2828.7	2863.5	2914.1	2967.9	2980.5
32.5°	2724.2	2759.0	2819.2	2876.1	2891.9
35°	2616.7	2648.3	2711.6	2778.0	2797.0
37.5°	2493.3	2534.4	2604.0	2670.5	2689.4
40°	2363.5	2414.2	2493.3	2562.9	2585.0
42.5°	2240.1	2293.9	2373.0	2449.0	2474.3
45°	2110.4	2161.0	2256.0	2341.4	2360.4
47.5°	1977.5	2034.5	2135.7	2221.2	2252.8
50°	1844.6	1904.8	2012.3	2100.9	2119.9
52.5°	1711.7	1775.0	1888.9	1983.9	1993.3
55°	1572.5	1642.1	1762.4	1854.1	1873.1
57.5°	1446.0	1506.1	1635.8	1730.7	1752.9
60°	1306.8	1373.2	1512.4	1601.0	1629.5
62.5°	1173.9	1243.5	1389.0	1477.6	1502.9
65°	1034.6	1113.7	1256.1	1360.5	1385.9
67.5°	914.4	990.3	1142.2	1243.5	1268.8
70°	775.2	860.6	1022.0	1126.4	1151.7
72.5°	655.0	743.6	904.9	1006.2	1044.1
75°	525.2	626.5	787.8	895.4	920.7
77.5°	398.7	515.7	680.3	762.5	762.5
80°	284.8	408.2	560.0	598.0	604.3
82.5°	186.7	306.9	414.5	411.3	411.3
85°	107.6	199.3	246.8	240.5	240.5
87.5°	41.1	82.3	88.6	88.6	85.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)