

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: P390944

Luminaire Tested: **24CZ2-110VHE-HRP-UNV-L950-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: P390944
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-L950-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8541.5 lumens
Efficiency: N/A
Efficacy: 110.4 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

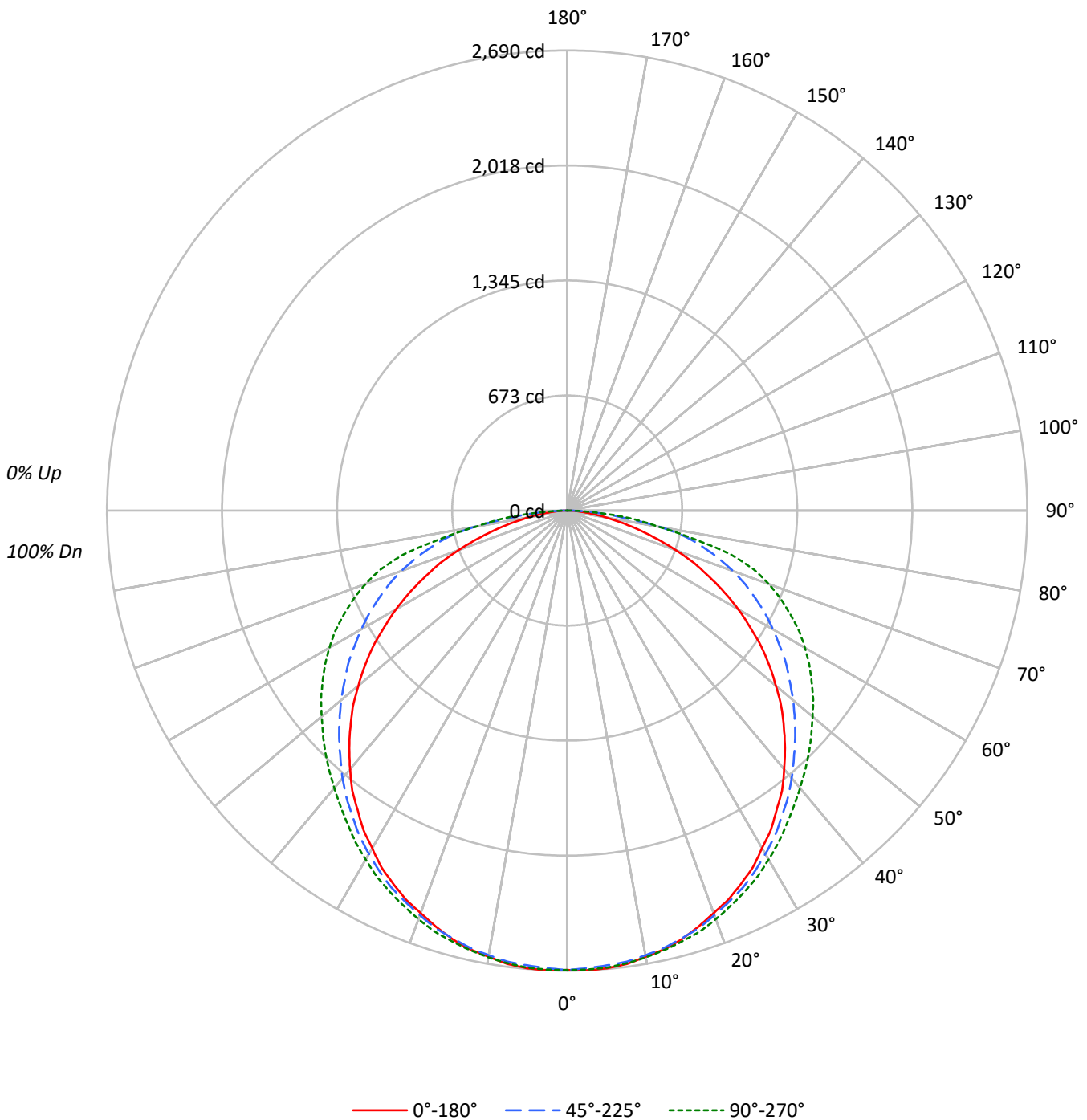
Input Watts (W): 77.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3614	3614	3614
5°	3628	3605	3622
10°	3618	3606	3624
15°	3612	3606	3629
20°	3585	3603	3640
25°	3573	3610	3648
30°	3541	3601	3660
35°	3507	3591	3674
40°	3468	3587	3721
45°	3410	3587	3805
50°	3334	3609	3920
55°	3250	3667	4095
60°	3112	3739	4321
65°	2913	3871	4586
70°	2650	4050	4934
75°	2246	4273	5154
80°	1773	4300	4169
85°	1308	3270	3663



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.8	3.0
10°-20°	733.3	8.6
20°-30°	1121.4	13.1
30°-40°	1370.9	16.0
40°-50°	1461.1	17.1
50°-60°	1397.0	16.4
60°-70°	1183.4	13.9
70°-80°	795.3	9.3
80°-90°	224.4	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°	2109.5	24.7
0°-40°	3480.4	40.7
0°-60°	6338.4	74.2
0°-90°	8541.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8541.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2686	2686	2686	2686	2686	
5°	2686	2682	2669	2682	2682	255
15°	2593	2593	2589	2610	2606	731
25°	2406	2415	2432	2453	2457	1109
35°	2135	2152	2186	2228	2237	1338
45°	1792	1822	1885	1966	2000	1382
55°	1385	1436	1563	1686	1746	1234
65°	915	1008	1216	1377	1440	909
75°	432	589	822	962	991	463
85°	85	174	212	229	237	105
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2686.1	2686.1	2686.1	2686.1	2686.1
2.5°	2690.3	2690.3	2677.6	2686.1	2686.1
5°	2686.1	2681.8	2669.1	2681.8	2681.8
7.5°	2673.3	2669.1	2660.6	2673.3	2669.1
10°	2647.9	2647.9	2639.5	2652.2	2652.2
12.5°	2626.7	2622.5	2618.3	2635.2	2631.0
15°	2592.9	2592.9	2588.6	2609.8	2605.6
17.5°	2550.5	2554.7	2559.0	2575.9	2580.1
20°	2503.9	2512.4	2516.6	2542.0	2542.0
22.5°	2461.5	2465.8	2474.2	2499.6	2499.6
25°	2406.4	2414.9	2431.9	2453.0	2457.3
27.5°	2351.4	2355.6	2376.8	2406.4	2410.7
30°	2279.3	2292.0	2317.5	2351.4	2355.6
32.5°	2215.8	2228.5	2258.2	2292.0	2300.5
35°	2135.3	2152.2	2186.1	2228.5	2237.0
37.5°	2063.3	2076.0	2118.3	2164.9	2177.7
40°	1974.3	1999.7	2042.1	2097.2	2118.3
42.5°	1885.3	1910.7	1961.6	2033.6	2059.0
45°	1792.1	1821.8	1885.3	1965.8	1999.7
47.5°	1698.9	1732.8	1804.8	1898.0	1936.2
50°	1593.0	1635.4	1724.3	1830.2	1872.6
52.5°	1491.3	1542.2	1639.6	1758.2	1813.3
55°	1385.4	1436.2	1563.3	1686.2	1745.5
57.5°	1266.8	1334.6	1474.4	1614.2	1677.7
60°	1156.6	1220.2	1389.6	1542.2	1605.7
62.5°	1038.0	1122.7	1304.9	1465.9	1529.4
65°	915.1	1008.3	1215.9	1376.9	1440.5
67.5°	805.0	906.7	1127.0	1288.0	1351.5
70°	673.6	800.7	1029.5	1190.5	1254.1
72.5°	550.8	690.6	927.8	1084.6	1143.9
75°	432.1	588.9	821.9	961.7	991.4
77.5°	322.0	487.2	711.8	771.1	749.9
80°	228.8	389.8	555.0	525.3	538.1
82.5°	148.3	296.6	343.2	389.8	402.5
85°	84.7	173.7	211.8	228.8	237.3
87.5°	38.1	63.6	84.7	84.7	80.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)