

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: P390984

Luminaire Tested: **24CZ2-120VHE-HRP-UNV-L935-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: P390984  
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: 24CZ2-120VHE-HRP-UNV-L935-CD2-SDWPD1-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: 8550.4 lumens  
Efficiency: N/A  
Efficacy: 102.3 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

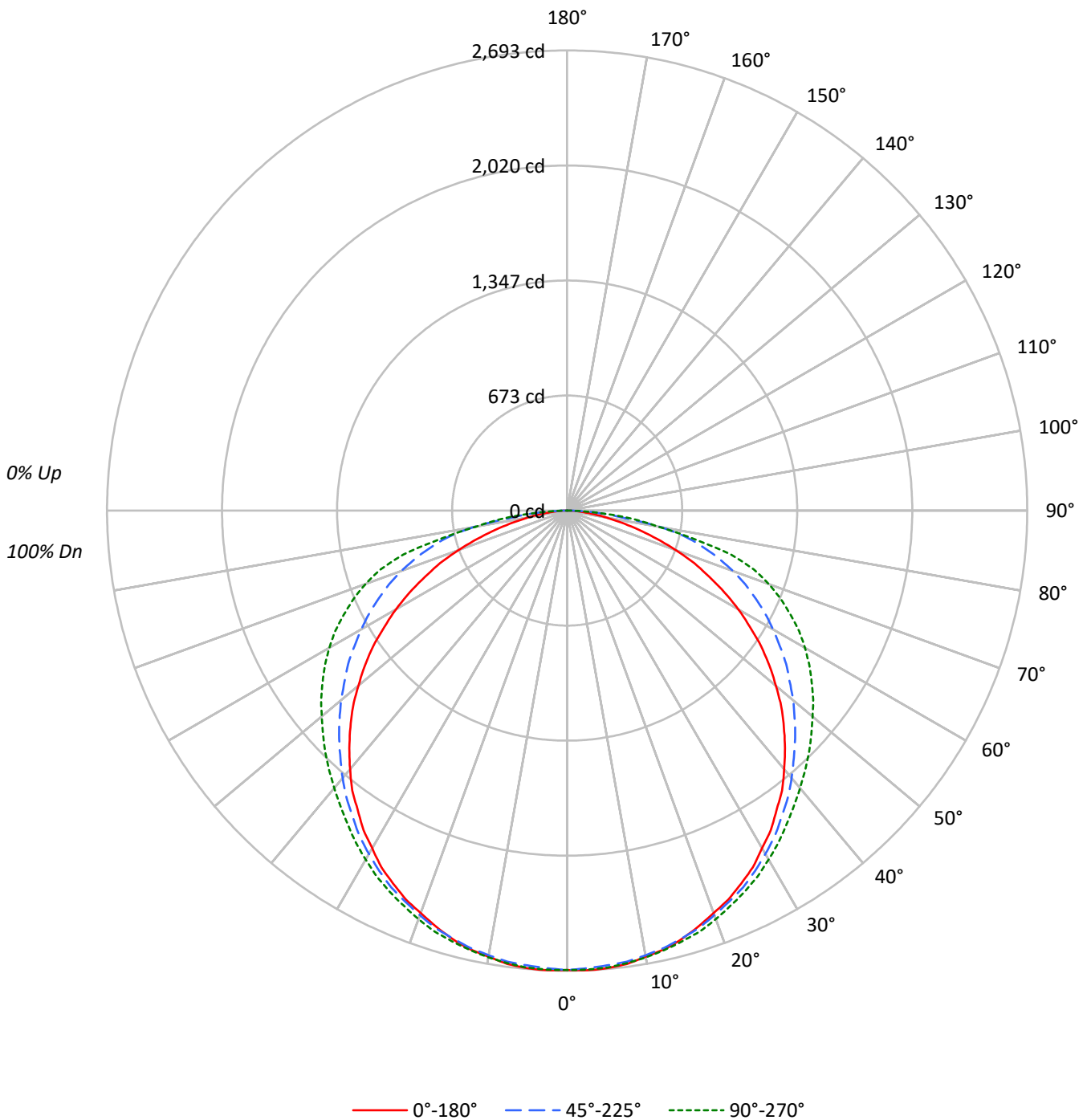
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3618	3618	3618
5°	3632	3609	3626
10°	3622	3610	3627
15°	3616	3610	3633
20°	3589	3607	3644
25°	3576	3614	3652
30°	3545	3604	3664
35°	3511	3595	3678
40°	3471	3590	3724
45°	3414	3591	3809
50°	3338	3613	3924
55°	3253	3671	4099
60°	3116	3743	4325
65°	2917	3875	4591
70°	2653	4054	4939
75°	2249	4277	5159
80°	1774	4305	4173
85°	1309	3274	3666



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	255.1	3.0
10°-20°	734.1	8.6
20°-30°	1122.5	13.1
30°-40°	1372.3	16.0
40°-50°	1462.6	17.1
50°-60°	1398.4	16.4
60°-70°	1184.6	13.9
70°-80°	796.2	9.3
80°-90°	224.6	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°	2111.7	24.7
0°-40°	3484.0	40.7
0°-60°	6345.0	74.2
0°-90°	8550.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8550.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2689	2689	2689	2689	2689	
5°	2689	2685	2672	2685	2685	255
15°	2596	2596	2591	2612	2608	732
25°	2409	2417	2434	2456	2460	1110
35°	2138	2154	2188	2231	2239	1339
45°	1794	1824	1887	1968	2002	1384
55°	1387	1438	1565	1688	1747	1235
65°	916	1009	1217	1378	1442	909
75°	433	590	823	963	992	463
85°	85	174	212	229	238	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2688.9	2688.9	2688.9	2688.9	2688.9
2.5°	2693.1	2693.1	2680.4	2688.9	2688.9
5°	2688.9	2684.6	2671.9	2684.6	2684.6
7.5°	2676.1	2671.9	2663.4	2676.1	2671.9
10°	2650.7	2650.7	2642.2	2654.9	2654.9
12.5°	2629.5	2625.2	2621.0	2638.0	2633.7
15°	2595.6	2595.6	2591.3	2612.5	2608.3
17.5°	2553.1	2557.4	2561.6	2578.6	2582.8
20°	2506.5	2515.0	2519.2	2544.7	2544.7
22.5°	2464.1	2468.3	2476.8	2502.2	2502.2
25°	2408.9	2417.4	2434.4	2455.6	2459.8
27.5°	2353.8	2358.1	2379.3	2408.9	2413.2
30°	2281.7	2294.4	2319.9	2353.8	2358.1
32.5°	2218.1	2230.8	2260.5	2294.4	2302.9
35°	2137.5	2154.5	2188.4	2230.8	2239.3
37.5°	2065.4	2078.1	2120.5	2167.2	2179.9
40°	1976.4	2001.8	2044.2	2099.3	2120.5
42.5°	1887.3	1912.7	1963.6	2035.7	2061.2
45°	1794.0	1823.7	1887.3	1967.9	2001.8
47.5°	1700.7	1734.6	1806.7	1900.0	1938.2
50°	1594.7	1637.1	1726.1	1832.2	1874.6
52.5°	1492.9	1543.8	1641.3	1760.1	1815.2
55°	1386.8	1437.7	1565.0	1688.0	1747.3
57.5°	1268.1	1335.9	1475.9	1615.9	1679.5
60°	1157.8	1221.4	1391.1	1543.8	1607.4
62.5°	1039.1	1123.9	1306.3	1467.4	1531.0
65°	916.1	1009.4	1217.2	1378.4	1442.0
67.5°	805.8	907.6	1128.1	1289.3	1352.9
70°	674.3	801.6	1030.6	1191.7	1255.4
72.5°	551.3	691.3	928.8	1085.7	1145.1
75°	432.6	589.5	822.8	962.7	992.4
77.5°	322.3	487.7	712.5	771.9	750.7
80°	229.0	390.2	555.6	525.9	538.6
82.5°	148.4	296.9	343.5	390.2	402.9
85°	84.8	173.9	212.1	229.0	237.5
87.5°	38.2	63.6	84.8	84.8	80.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)