

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: P390992

Luminaire Tested: **24CZ2-120VHE-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: P390992  
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-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: 9398.1 lumens  
Efficiency: N/A  
Efficacy: 112.4 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

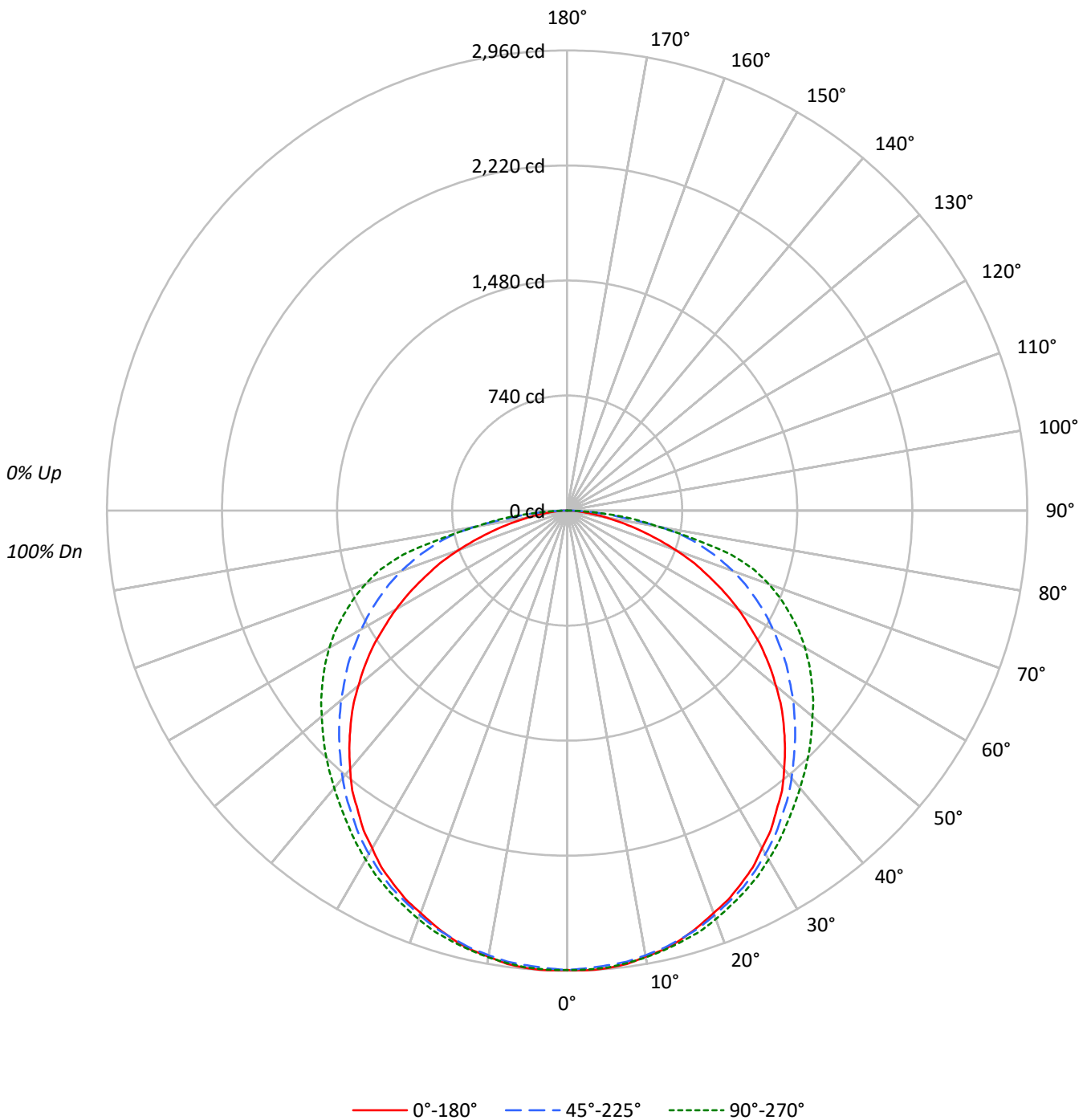
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3976	3976	3976
5°	3992	3967	3985
10°	3981	3968	3987
15°	3974	3967	3993
20°	3945	3965	4005
25°	3931	3972	4014
30°	3896	3962	4027
35°	3859	3951	4043
40°	3815	3946	4094
45°	3752	3947	4187
50°	3669	3971	4313
55°	3576	4035	4505
60°	3425	4115	4754
65°	3206	4259	5046
70°	2916	4456	5428
75°	2472	4701	5671
80°	1950	4732	4587
85°	1439	3599	4029



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	280.4	3.0
10°-20°	806.8	8.6
20°-30°	1233.8	13.1
30°-40°	1508.4	16.0
40°-50°	1607.6	17.1
50°-60°	1537.1	16.4
60°-70°	1302.1	13.9
70°-80°	875.1	9.3
80°-90°	246.8	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°	2321.0	24.7
0°-40°	3829.4	40.7
0°-60°	6974.1	74.2
0°-90°	9398.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9398.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2955	2955	2955	2955	2955	
5°	2955	2951	2937	2951	2951	281
15°	2853	2853	2848	2872	2867	804
25°	2648	2657	2676	2699	2704	1220
35°	2349	2368	2405	2452	2461	1472
45°	1972	2004	2074	2163	2200	1521
55°	1524	1580	1720	1855	1921	1358
65°	1007	1110	1338	1515	1585	1000
75°	476	648	904	1058	1091	509
85°	93	191	233	252	261	115
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2955.4	2955.4	2955.4	2955.4	2955.4
2.5°	2960.1	2960.1	2946.1	2955.4	2955.4
5°	2955.4	2950.8	2936.8	2950.8	2950.8
7.5°	2941.4	2936.8	2927.5	2941.4	2936.8
10°	2913.5	2913.5	2904.2	2918.1	2918.1
12.5°	2890.2	2885.5	2880.8	2899.5	2894.8
15°	2852.9	2852.9	2848.2	2871.5	2866.9
17.5°	2806.3	2810.9	2815.6	2834.2	2838.9
20°	2755.0	2764.3	2769.0	2796.9	2796.9
22.5°	2708.4	2713.0	2722.4	2750.3	2750.3
25°	2647.8	2657.1	2675.7	2699.0	2703.7
27.5°	2587.2	2591.8	2615.1	2647.8	2652.4
30°	2507.9	2521.9	2549.9	2587.2	2591.8
32.5°	2438.0	2452.0	2484.6	2521.9	2531.2
35°	2349.4	2368.1	2405.4	2452.0	2461.3
37.5°	2270.2	2284.2	2330.8	2382.1	2396.0
40°	2172.3	2200.3	2246.9	2307.5	2330.8
42.5°	2074.4	2102.4	2158.3	2237.6	2265.5
45°	1971.8	2004.5	2074.4	2163.0	2200.3
47.5°	1869.3	1906.6	1985.8	2088.4	2130.3
50°	1752.7	1799.4	1897.3	2013.8	2060.4
52.5°	1640.9	1696.8	1804.0	1934.6	1995.2
55°	1524.3	1580.3	1720.1	1855.3	1920.6
57.5°	1393.8	1468.4	1622.2	1776.1	1846.0
60°	1272.6	1342.5	1529.0	1696.8	1766.7
62.5°	1142.1	1235.3	1435.8	1612.9	1682.8
65°	1006.9	1109.5	1337.9	1515.0	1584.9
67.5°	885.7	997.6	1240.0	1417.1	1487.0
70°	741.2	881.0	1132.8	1309.9	1379.8
72.5°	606.0	759.8	1020.9	1193.4	1258.6
75°	475.5	648.0	904.3	1058.2	1090.8
77.5°	354.3	536.1	783.1	848.4	825.1
80°	251.7	428.9	610.7	578.0	592.0
82.5°	163.2	326.3	377.6	428.9	442.8
85°	93.2	191.1	233.1	251.7	261.0
87.5°	42.0	69.9	93.2	93.2	88.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)