

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: P391805

Luminaire Tested: **24CZ2-90VHE-HRP-UNV-L940-CD1-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: P391805  
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: 24CZ2-90VHE-HRP-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6564.3 lumens  
Efficiency: N/A  
Efficacy: 106.2 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

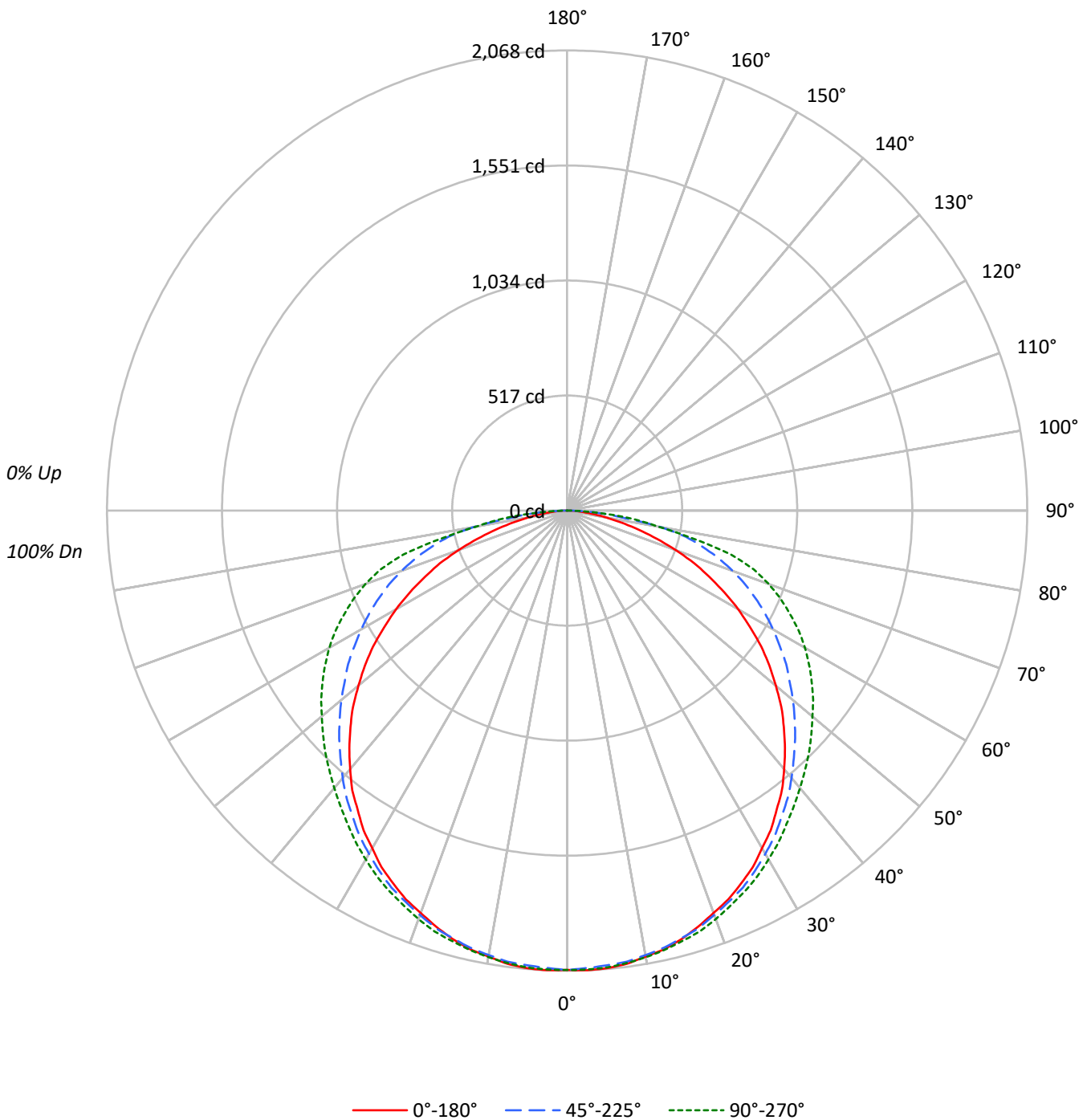
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2777	2777	2777
5°	2788	2771	2784
10°	2780	2771	2785
15°	2776	2771	2789
20°	2755	2769	2797
25°	2746	2775	2804
30°	2722	2767	2813
35°	2695	2760	2824
40°	2665	2757	2859
45°	2621	2757	2924
50°	2563	2774	3012
55°	2498	2818	3147
60°	2392	2874	3321
65°	2239	2975	3524
70°	2037	3113	3792
75°	1726	3284	3961
80°	1362	3305	3204
85°	1005	2513	2814



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.8	3.0
10°-20°	563.6	8.6
20°-30°	861.8	13.1
30°-40°	1053.5	16.0
40°-50°	1122.9	17.1
50°-60°	1073.6	16.4
60°-70°	909.5	13.9
70°-80°	611.2	9.3
80°-90°	172.4	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°	1621.2	24.7
0°-40°	2674.7	40.7
0°-60°	4871.2	74.2
0°-90°	6564.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6564.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2064	2064	2064	2064	2064	
5°	2064	2061	2051	2061	2061	196
15°	1993	1993	1989	2006	2002	562
25°	1849	1856	1869	1885	1888	852
35°	1641	1654	1680	1713	1719	1028
45°	1377	1400	1449	1511	1537	1062
55°	1065	1104	1202	1296	1342	948
65°	703	775	934	1058	1107	698
75°	332	453	632	739	762	356
85°	65	134	163	176	182	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2064.3	2064.3	2064.3	2064.3	2064.3
2.5°	2067.5	2067.5	2057.8	2064.3	2064.3
5°	2064.3	2061.0	2051.3	2061.0	2061.0
7.5°	2054.5	2051.3	2044.7	2054.5	2051.3
10°	2035.0	2035.0	2028.5	2038.2	2038.2
12.5°	2018.7	2015.4	2012.2	2025.2	2022.0
15°	1992.7	1992.7	1989.4	2005.7	2002.4
17.5°	1960.1	1963.3	1966.6	1979.6	1982.9
20°	1924.3	1930.8	1934.0	1953.6	1953.6
22.5°	1891.7	1895.0	1901.5	1921.0	1921.0
25°	1849.4	1855.9	1868.9	1885.2	1888.5
27.5°	1807.1	1810.3	1826.6	1849.4	1852.6
30°	1751.7	1761.5	1781.0	1807.1	1810.3
32.5°	1702.9	1712.6	1735.4	1761.5	1768.0
35°	1641.0	1654.0	1680.1	1712.6	1719.2
37.5°	1585.7	1595.4	1628.0	1663.8	1673.6
40°	1517.3	1536.8	1569.4	1611.7	1628.0
42.5°	1448.9	1468.4	1507.5	1562.9	1582.4
45°	1377.3	1400.1	1448.9	1510.8	1536.8
47.5°	1305.6	1331.7	1387.0	1458.7	1488.0
50°	1224.2	1256.8	1325.2	1406.6	1439.1
52.5°	1146.1	1185.2	1260.1	1351.2	1393.6
55°	1064.7	1103.8	1201.5	1295.9	1341.5
57.5°	973.5	1025.6	1133.1	1240.5	1289.4
60°	888.9	937.7	1068.0	1185.2	1234.0
62.5°	797.7	862.8	1002.8	1126.6	1175.4
65°	703.3	774.9	934.5	1058.2	1107.0
67.5°	618.6	696.8	866.1	989.8	1038.7
70°	517.7	615.4	791.2	914.9	963.8
72.5°	423.3	530.7	713.1	833.5	879.1
75°	332.1	452.6	631.7	739.1	761.9
77.5°	247.5	374.4	547.0	592.6	576.3
80°	175.8	299.5	426.5	403.7	413.5
82.5°	114.0	227.9	263.7	299.5	309.3
85°	65.1	133.5	162.8	175.8	182.3
87.5°	29.3	48.8	65.1	65.1	61.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)