

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: P391802

Luminaire Tested: **24CZ2-90VHE-HRP-UNV-L935-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: P391802  
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-L935-CD1-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: 6497.1 lumens  
Efficiency: N/A  
Efficacy: 105.1 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

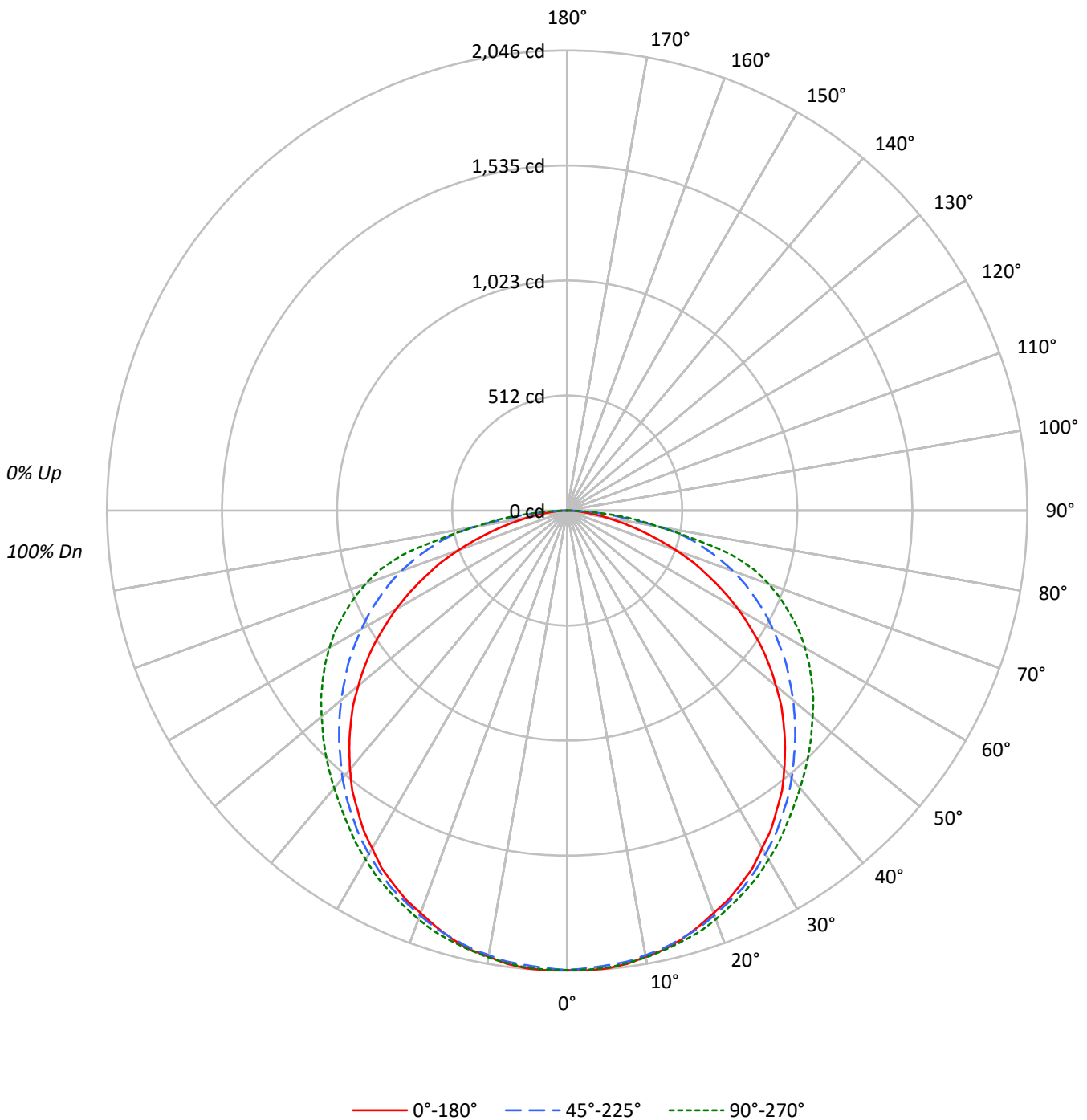
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2749	2749	2749
5°	2760	2742	2755
10°	2752	2743	2756
15°	2747	2743	2761
20°	2727	2741	2769
25°	2718	2746	2775
30°	2694	2739	2784
35°	2668	2731	2795
40°	2638	2728	2830
45°	2594	2729	2894
50°	2536	2745	2982
55°	2472	2790	3115
60°	2368	2844	3287
65°	2216	2945	3488
70°	2016	3081	3753
75°	1709	3250	3920
80°	1348	3271	3171
85°	996	2487	2787



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	193.8	3.0
10°-20°	557.8	8.6
20°-30°	853.0	13.1
30°-40°	1042.8	16.0
40°-50°	1111.4	17.1
50°-60°	1062.6	16.4
60°-70°	900.2	13.9
70°-80°	605.0	9.3
80°-90°	170.7	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°	1604.6	24.7
0°-40°	2647.3	40.7
0°-60°	4821.3	74.2
0°-90°	6497.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6497.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2043	2043	2043	2043	2043	
5°	2043	2040	2030	2040	2040	194
15°	1972	1972	1969	1985	1982	556
25°	1830	1837	1850	1866	1869	844
35°	1624	1637	1663	1695	1702	1017
45°	1363	1386	1434	1495	1521	1051
55°	1054	1092	1189	1283	1328	939
65°	696	767	925	1047	1096	691
75°	329	448	625	732	754	352
85°	64	132	161	174	180	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2043.2	2043.2	2043.2	2043.2	2043.2
2.5°	2046.4	2046.4	2036.7	2043.2	2043.2
5°	2043.2	2039.9	2030.3	2039.9	2039.9
7.5°	2033.5	2030.3	2023.8	2033.5	2030.3
10°	2014.1	2014.1	2007.7	2017.4	2017.4
12.5°	1998.0	1994.8	1991.6	2004.5	2001.3
15°	1972.3	1972.3	1969.0	1985.1	1981.9
17.5°	1940.0	1943.3	1946.5	1959.4	1962.6
20°	1904.6	1911.0	1914.2	1933.6	1933.6
22.5°	1872.4	1875.6	1882.0	1901.4	1901.4
25°	1830.5	1836.9	1849.8	1865.9	1869.1
27.5°	1788.6	1791.8	1807.9	1830.5	1833.7
30°	1733.8	1743.4	1762.8	1788.6	1791.8
32.5°	1685.4	1695.1	1717.7	1743.4	1749.9
35°	1624.2	1637.1	1662.9	1695.1	1701.6
37.5°	1569.4	1579.1	1611.3	1646.8	1656.4
40°	1501.7	1521.1	1553.3	1595.2	1611.3
42.5°	1434.1	1453.4	1492.1	1546.9	1566.2
45°	1363.2	1385.7	1434.1	1495.3	1521.1
47.5°	1292.3	1318.1	1372.8	1443.7	1472.7
50°	1211.7	1243.9	1311.6	1392.2	1424.4
52.5°	1134.4	1173.0	1247.2	1337.4	1379.3
55°	1053.8	1092.5	1189.2	1282.6	1327.7
57.5°	963.6	1015.1	1121.5	1227.8	1276.2
60°	879.8	928.1	1057.0	1173.0	1221.4
62.5°	789.5	854.0	992.6	1115.0	1163.4
65°	696.1	767.0	924.9	1047.4	1095.7
67.5°	612.3	689.6	857.2	979.7	1028.0
70°	512.4	609.1	783.1	905.6	953.9
72.5°	418.9	525.3	705.8	825.0	870.1
75°	328.7	447.9	625.2	731.5	754.1
77.5°	244.9	370.6	541.4	586.5	570.4
80°	174.0	296.5	422.2	399.6	409.3
82.5°	112.8	225.6	261.0	296.5	306.2
85°	64.5	132.1	161.1	174.0	180.5
87.5°	29.0	48.3	64.5	64.5	61.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)