

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: P391703

Luminaire Tested: **24CZ2-80VHE-HRP-UNV-L930-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: P391703  
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: 24CZ2-80VHE-HRP-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5692.4 lumens  
Efficiency: N/A  
Efficacy: 105.8 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

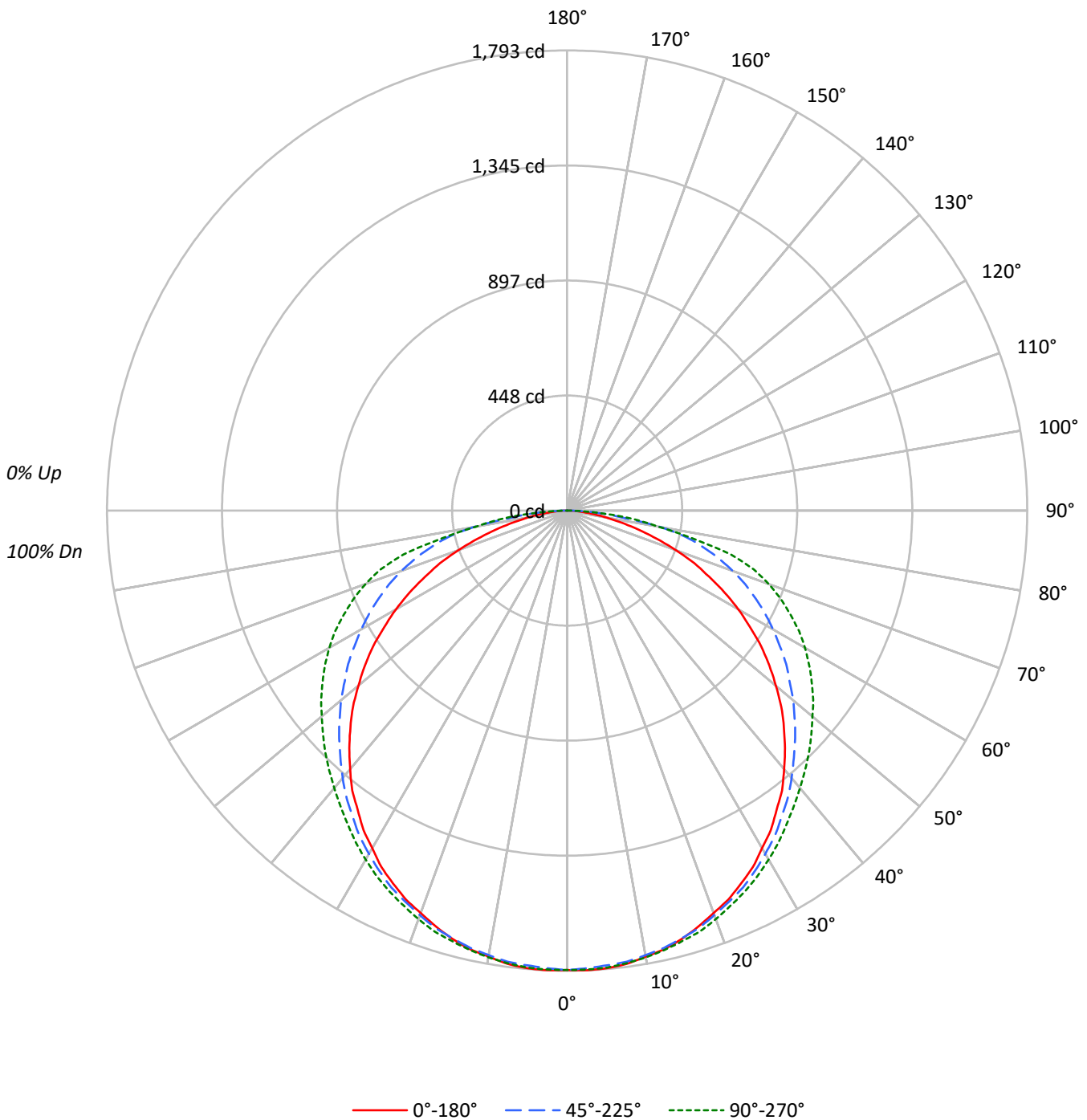
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	2409	2409	2409
5°	2418	2402	2414
10°	2411	2403	2415
15°	2407	2403	2419
20°	2389	2401	2426
25°	2381	2406	2431
30°	2360	2400	2439
35°	2337	2393	2449
40°	2311	2390	2480
45°	2273	2391	2536
50°	2222	2406	2612
55°	2166	2444	2729
60°	2074	2492	2880
65°	1942	2580	3056
70°	1766	2699	3288
75°	1497	2848	3435
80°	1182	2866	2779
85°	872	2180	2441



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.8	3.0
10°-20°	488.7	8.6
20°-30°	747.3	13.1
30°-40°	913.6	16.0
40°-50°	973.7	17.1
50°-60°	931.0	16.4
60°-70°	788.7	13.9
70°-80°	530.1	9.3
80°-90°	149.5	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°	1405.8	24.7
0°-40°	2319.4	40.7
0°-60°	4224.2	74.2
0°-90°	5692.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5692.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1790	1790	1790	1790	1790	
5°	1790	1787	1779	1787	1787	170
15°	1728	1728	1725	1739	1736	487
25°	1604	1609	1621	1635	1638	739
35°	1423	1434	1457	1485	1491	891
45°	1194	1214	1256	1310	1333	921
55°	923	957	1042	1124	1163	822
65°	610	672	810	918	960	605
75°	288	392	548	641	661	308
85°	56	116	141	152	158	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1790.1	1790.1	1790.1	1790.1	1790.1
2.5°	1792.9	1792.9	1784.5	1790.1	1790.1
5°	1790.1	1787.3	1778.8	1787.3	1787.3
7.5°	1781.6	1778.8	1773.2	1781.6	1778.8
10°	1764.7	1764.7	1759.0	1767.5	1767.5
12.5°	1750.6	1747.7	1744.9	1756.2	1753.4
15°	1728.0	1728.0	1725.2	1739.3	1736.5
17.5°	1699.7	1702.6	1705.4	1716.7	1719.5
20°	1668.7	1674.3	1677.2	1694.1	1694.1
22.5°	1640.5	1643.3	1648.9	1665.9	1665.9
25°	1603.7	1609.4	1620.7	1634.8	1637.6
27.5°	1567.0	1569.9	1584.0	1603.7	1606.6
30°	1519.0	1527.5	1544.5	1567.0	1569.9
32.5°	1476.7	1485.2	1504.9	1527.5	1533.2
35°	1423.0	1434.3	1456.9	1485.2	1490.8
37.5°	1375.0	1383.5	1411.7	1442.8	1451.3
40°	1315.7	1332.7	1360.9	1397.6	1411.7
42.5°	1256.5	1273.4	1307.3	1355.3	1372.2
45°	1194.3	1214.1	1256.5	1310.1	1332.7
47.5°	1132.2	1154.8	1202.8	1264.9	1290.3
50°	1061.6	1089.9	1149.2	1219.8	1248.0
52.5°	993.9	1027.8	1092.7	1171.8	1208.5
55°	923.3	957.2	1041.9	1123.8	1163.3
57.5°	844.2	889.4	982.6	1075.8	1118.1
60°	770.8	813.2	926.1	1027.8	1070.1
62.5°	691.8	748.2	869.6	976.9	1019.3
65°	609.9	672.0	810.3	917.6	960.0
67.5°	536.5	604.2	751.1	858.3	900.7
70°	448.9	533.6	686.1	793.4	835.8
72.5°	367.1	460.2	618.3	722.8	762.3
75°	288.0	392.5	547.8	640.9	660.7
77.5°	214.6	324.7	474.3	513.9	499.8
80°	152.5	259.8	369.9	350.1	358.6
82.5°	98.8	197.6	228.7	259.8	268.2
85°	56.5	115.8	141.2	152.5	158.1
87.5°	25.4	42.4	56.5	56.5	53.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)