

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: P391702

Luminaire Tested: **24CZ2-80VHE-HRP-UNV-L930-CD1-SWPD1-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: P391702  
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-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

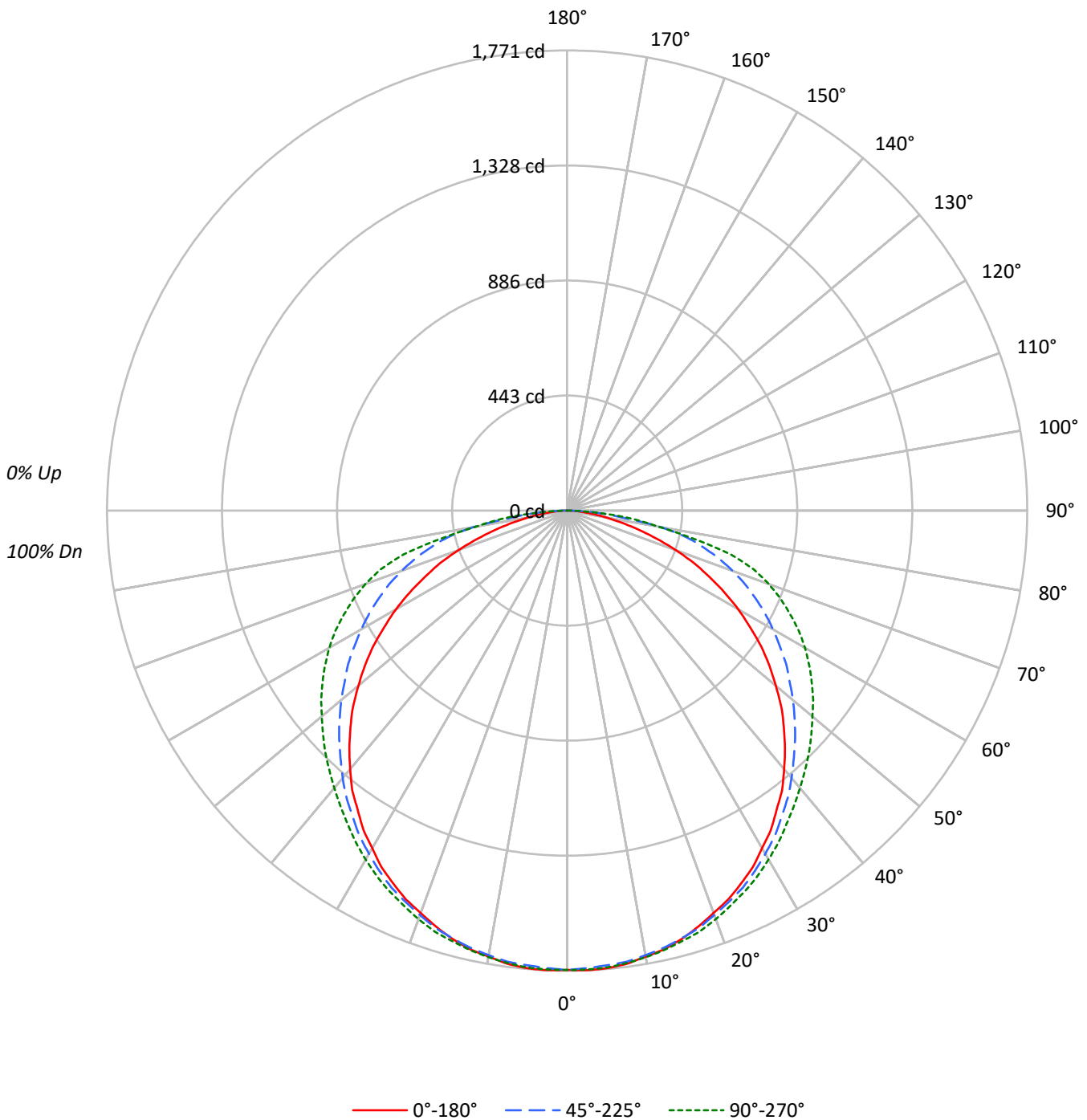
Lumens per Lamp: N/A  
Luminaire Lumens: 5621.8 lumens  
Efficiency: N/A  
Efficacy: 104.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	2379	2379	2379
5°	2388	2373	2384
10°	2381	2373	2385
15°	2377	2373	2389
20°	2360	2372	2396
25°	2351	2376	2401
30°	2331	2370	2409
35°	2308	2363	2418
40°	2282	2361	2449
45°	2244	2361	2504
50°	2195	2376	2580
55°	2139	2414	2695
60°	2049	2461	2844
65°	1918	2548	3018
70°	1744	2666	3247
75°	1478	2812	3392
80°	1167	2830	2744
85°	861	2152	2411



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.7	3.0
10°-20°	482.6	8.6
20°-30°	738.1	13.1
30°-40°	902.3	16.0
40°-50°	961.6	17.1
50°-60°	919.4	16.4
60°-70°	778.9	13.9
70°-80°	523.5	9.3
80°-90°	147.7	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°	1388.4	24.7
0°-40°	2290.7	40.7
0°-60°	4171.8	74.2
0°-90°	5621.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5621.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1768	1768	1768	1768	1768	
5°	1768	1765	1757	1765	1765	168
15°	1706	1706	1704	1718	1715	481
25°	1584	1589	1601	1614	1617	730
35°	1405	1416	1439	1467	1472	880
45°	1180	1199	1241	1294	1316	910
55°	912	945	1029	1110	1149	812
65°	602	664	800	906	948	598
75°	284	388	541	633	652	305
85°	56	114	139	151	156	69
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1767.9	1767.9	1767.9	1767.9	1767.9
2.5°	1770.7	1770.7	1762.3	1767.9	1767.9
5°	1767.9	1765.1	1756.7	1765.1	1765.1
7.5°	1759.5	1756.7	1751.2	1759.5	1756.7
10°	1742.8	1742.8	1737.2	1745.6	1745.6
12.5°	1728.9	1726.1	1723.3	1734.4	1731.6
15°	1706.5	1706.5	1703.8	1717.7	1714.9
17.5°	1678.7	1681.5	1684.2	1695.4	1698.2
20°	1648.0	1653.6	1656.4	1673.1	1673.1
22.5°	1620.1	1622.9	1628.5	1645.2	1645.2
25°	1583.9	1589.4	1600.6	1614.5	1617.3
27.5°	1547.6	1550.4	1564.3	1583.9	1586.6
30°	1500.2	1508.6	1525.3	1547.6	1550.4
32.5°	1458.4	1466.7	1486.3	1508.6	1514.1
35°	1405.4	1416.5	1438.9	1466.7	1472.3
37.5°	1358.0	1366.4	1394.2	1424.9	1433.3
40°	1299.4	1316.2	1344.0	1380.3	1394.2
42.5°	1240.9	1257.6	1291.1	1338.5	1355.2
45°	1179.5	1199.0	1240.9	1293.9	1316.2
47.5°	1118.2	1140.5	1187.9	1249.2	1274.3
50°	1048.5	1076.4	1134.9	1204.6	1232.5
52.5°	981.5	1015.0	1079.1	1157.2	1193.5
55°	911.8	945.3	1028.9	1109.8	1148.9
57.5°	833.8	878.4	970.4	1062.4	1104.2
60°	761.3	803.1	914.6	1015.0	1056.8
62.5°	683.2	738.9	858.9	964.8	1006.6
65°	602.3	663.7	800.3	906.3	948.1
67.5°	529.8	596.7	741.7	847.7	889.5
70°	443.4	527.0	677.6	783.6	825.4
72.5°	362.5	454.5	610.7	713.9	752.9
75°	284.4	387.6	541.0	633.0	652.5
77.5°	211.9	320.7	468.5	507.5	493.6
80°	150.6	256.5	365.3	345.8	354.1
82.5°	97.6	195.2	225.9	256.5	264.9
85°	55.8	114.3	139.4	150.6	156.2
87.5°	25.1	41.8	55.8	55.8	53.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)