

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: P388897

Luminaire Tested: **24CZ2-60VHE-UNV-L935-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: P388897  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-UNV-L935-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5055.9 lumens  
Efficiency: N/A  
Efficacy: 130.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

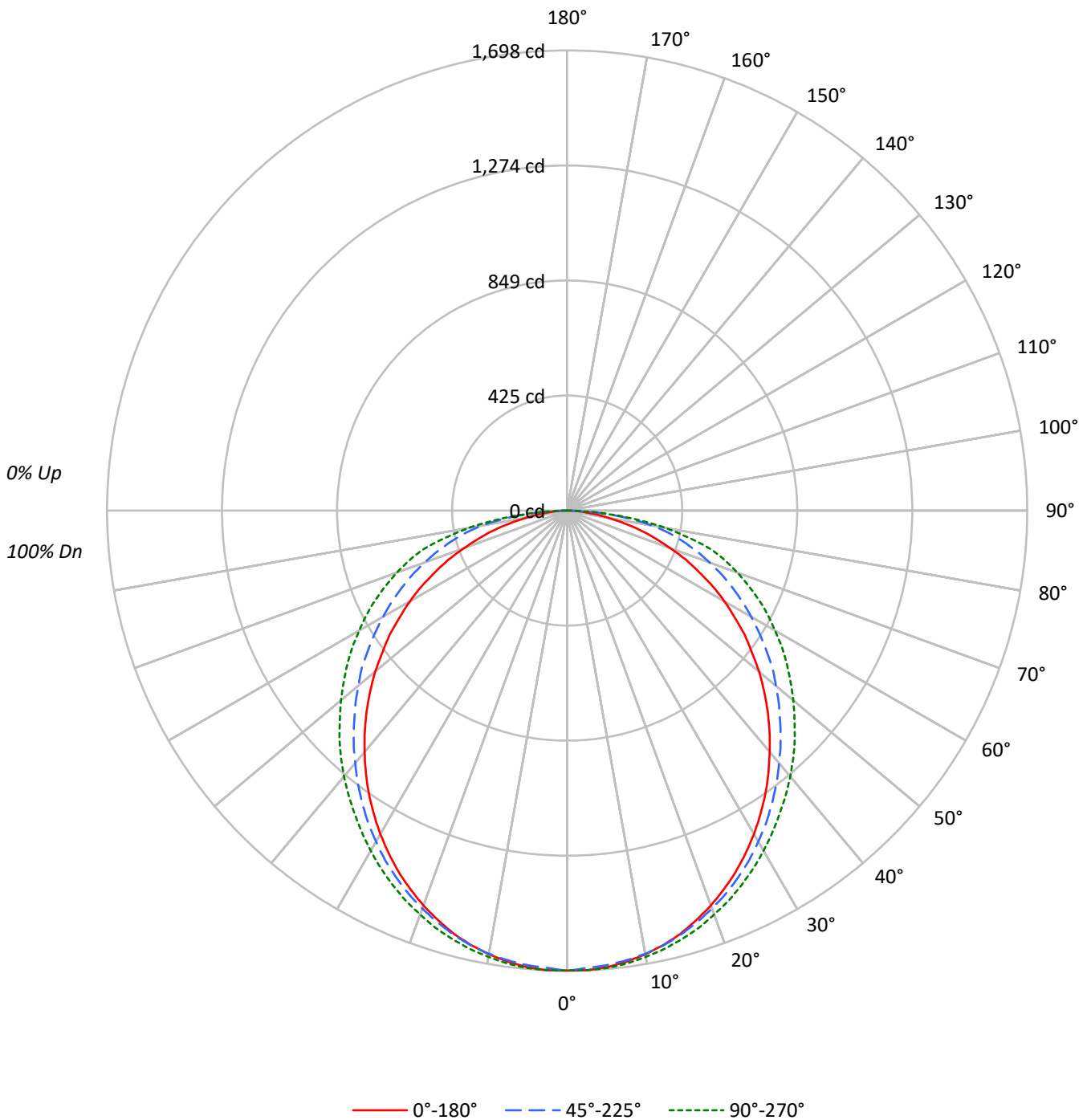
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388897

CATALOG NUMBER: 24CZ2-60VHE-UNV-L935-CD1-SWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388897

CATALOG NUMBER: 24CZ2-60VHE-UNV-L935-CD1-SWPD1-U

**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	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	2284	2284	2284
5°	2284	2274	2288
10°	2271	2269	2285
15°	2252	2256	2280
20°	2220	2237	2271
25°	2184	2217	2262
30°	2142	2192	2252
35°	2095	2165	2245
40°	2042	2137	2249
45°	1991	2116	2260
50°	1936	2105	2282
55°	1876	2102	2324
60°	1803	2111	2384
65°	1708	2144	2487
70°	1587	2197	2629
75°	1447	2307	2851
80°	1190	2484	2850
85°	912	2293	2448



TEST NUMBER: P388897

CATALOG NUMBER: 24CZ2-60VHE-UNV-L935-CD1-SWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.5	3.2
10°-20°	458.3	9.1
20°-30°	689.7	13.6
30°-40°	826.6	16.3
40°-50°	861.4	17.0
50°-60°	801.4	15.9
60°-70°	660.1	13.1
70°-80°	449.5	8.9
80°-90°	148.4	2.9
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°	1308.6	25.9
0°-40°	2135.2	42.2
0°-60°	3797.9	75.1
0°-90°	5055.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5055.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1698	1698	1698	1698	1698	
5°	1691	1691	1684	1692	1694	160
15°	1616	1618	1620	1635	1637	455
25°	1471	1478	1493	1519	1524	677
35°	1276	1291	1318	1353	1367	797
45°	1046	1068	1112	1168	1188	807
55°	800	827	896	967	990	713
65°	537	582	673	753	781	533
75°	278	341	444	523	548	294
85°	59	115	148	159	159	73
90°	0	0	0	0	0	



TEST NUMBER: P388897

CATALOG NUMBER: 24CZ2-60VHE-UNV-L935-CD1-SWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1697.5	1697.5	1697.5	1697.5	1697.5
2.5°	1697.5	1697.5	1689.1	1697.5	1697.5
5°	1690.8	1690.8	1684.0	1692.4	1694.1
7.5°	1678.9	1680.6	1673.9	1684.0	1685.7
10°	1662.1	1663.8	1660.4	1670.5	1672.2
12.5°	1641.8	1643.5	1643.5	1655.3	1657.0
15°	1616.5	1618.2	1619.9	1635.1	1636.8
17.5°	1584.4	1589.5	1592.9	1611.4	1614.8
20°	1550.7	1555.8	1562.5	1582.8	1586.1
22.5°	1511.9	1518.6	1530.5	1552.4	1557.4
25°	1471.4	1478.1	1493.3	1518.6	1523.7
27.5°	1425.8	1436.0	1454.5	1481.5	1488.3
30°	1378.6	1388.7	1410.6	1439.3	1449.5
32.5°	1328.0	1341.5	1366.8	1398.8	1409.0
35°	1275.7	1290.8	1317.8	1353.3	1366.8
37.5°	1220.0	1236.8	1268.9	1307.7	1324.6
40°	1162.6	1182.9	1216.6	1262.2	1280.7
42.5°	1105.2	1123.8	1166.0	1214.9	1235.2
45°	1046.2	1068.1	1112.0	1167.7	1187.9
47.5°	985.4	1007.4	1059.7	1118.7	1137.3
50°	924.7	946.6	1005.7	1068.1	1090.0
52.5°	858.9	887.6	955.1	1017.5	1039.4
55°	799.8	826.8	896.0	966.9	990.5
57.5°	732.3	764.4	840.3	914.6	939.9
60°	669.9	703.6	784.6	860.6	885.9
62.5°	605.8	642.9	728.9	806.6	835.3
65°	536.6	582.1	673.3	752.6	781.3
67.5°	474.2	521.4	617.6	698.6	723.9
70°	403.3	460.7	558.5	639.5	668.2
72.5°	342.5	399.9	502.8	582.1	610.8
75°	278.4	340.9	443.8	523.1	548.4
77.5°	214.3	283.5	386.4	447.2	455.6
80°	153.6	226.1	320.6	356.0	367.8
82.5°	108.0	173.8	236.2	259.9	266.6
85°	59.1	114.7	148.5	158.6	158.6
87.5°	25.3	48.9	59.1	60.7	62.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)