

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: P388946

Luminaire Tested: **24CZ2-60VHE-SQR-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: P388946  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-SQR-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4797.9 lumens  
Efficiency: N/A  
Efficacy: 124.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

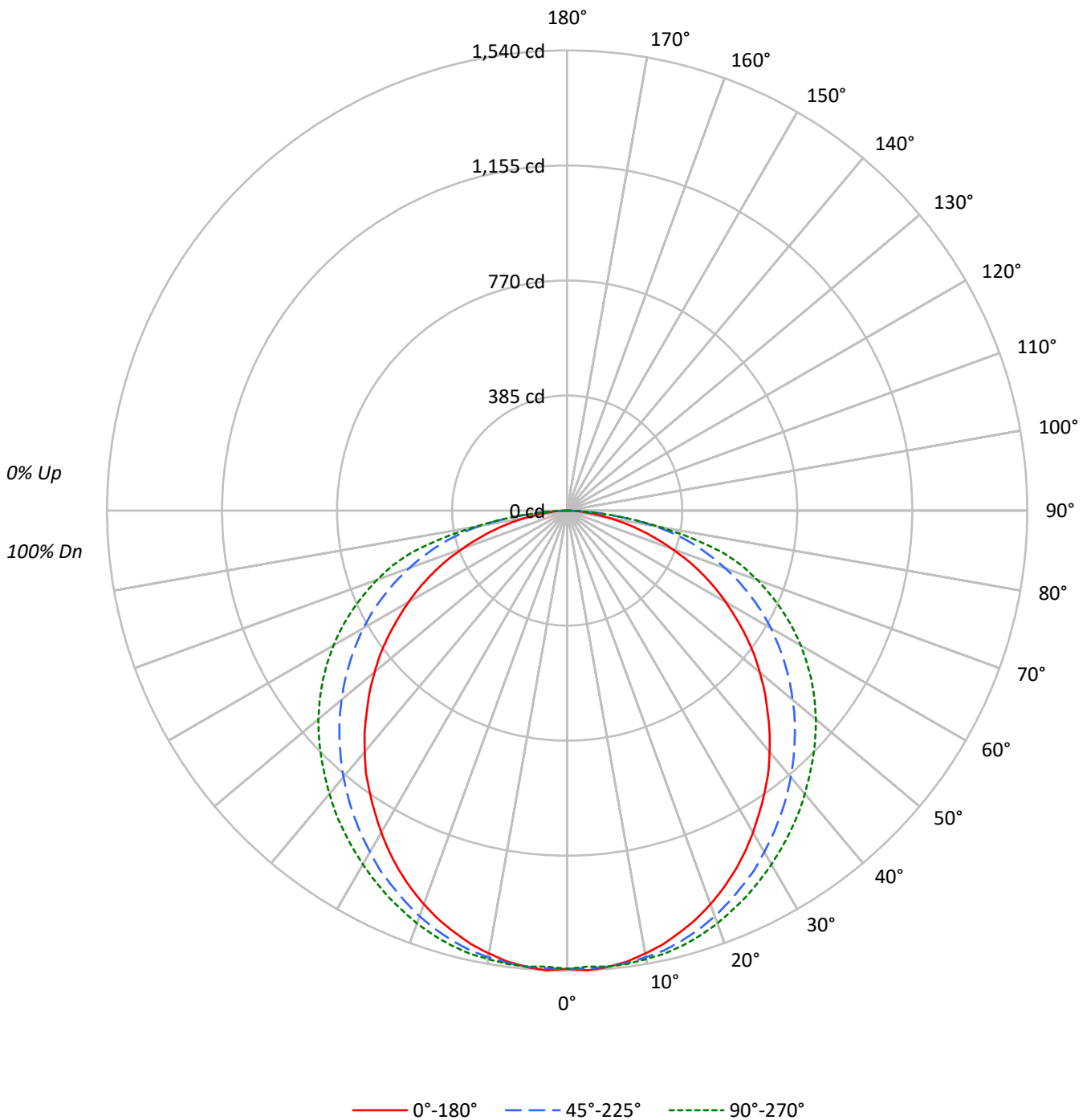
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	89	86	84
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24

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

	0°	45°	90°
0°	2063	2063	2063
5°	2071	2069	2069
10°	2056	2074	2082
15°	2035	2075	2097
20°	2008	2069	2105
25°	1973	2058	2112
30°	1932	2050	2124
35°	1892	2045	2144
40°	1851	2045	2173
45°	1803	2050	2216
50°	1761	2063	2275
55°	1710	2085	2345
60°	1650	2119	2430
65°	1579	2159	2532
70°	1465	2212	2661
75°	1326	2289	2784
80°	1117	2296	2393
85°	857	1737	1737



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.6	3.0
10°-20°	418.8	8.7
20°-30°	636.2	13.3
30°-40°	773.8	16.1
40°-50°	823.9	17.2
50°-60°	784.7	16.4
60°-70°	656.2	13.7
70°-80°	437.5	9.1
80°-90°	121.1	2.5
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°	1200.6	25.0
0°-40°	1974.5	41.2
0°-60°	3583.1	74.7
0°-90°	4797.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4797.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1534	1534	1534	1534	1534	
5°	1534	1524	1532	1532	1532	145
15°	1461	1464	1489	1500	1505	412
25°	1329	1347	1386	1410	1423	612
35°	1152	1185	1245	1286	1306	721
45°	947	998	1077	1138	1164	732
55°	729	792	889	966	1000	652
65°	496	569	678	762	795	490
75°	255	336	440	515	536	270
85°	56	103	112	111	112	67
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1533.6	1533.6	1533.6	1533.6	1533.6
2.5°	1540.0	1528.9	1533.6	1533.6	1527.3
5°	1533.6	1524.1	1532.1	1532.1	1532.1
7.5°	1522.6	1514.6	1527.3	1530.5	1530.5
10°	1505.1	1502.0	1517.8	1522.6	1524.1
12.5°	1486.1	1484.5	1506.7	1513.0	1517.8
15°	1460.8	1463.9	1489.3	1500.4	1505.1
17.5°	1433.8	1440.2	1468.7	1484.5	1489.3
20°	1402.1	1411.6	1444.9	1460.8	1470.3
22.5°	1367.3	1381.5	1416.4	1435.4	1446.5
25°	1329.3	1346.7	1386.3	1410.1	1422.7
27.5°	1288.1	1310.3	1356.2	1383.1	1395.8
30°	1243.7	1269.1	1319.8	1351.4	1367.3
32.5°	1197.8	1227.9	1283.3	1318.2	1337.2
35°	1151.8	1185.1	1245.3	1286.5	1305.5
37.5°	1105.9	1139.1	1205.7	1250.0	1273.8
40°	1053.6	1093.2	1164.5	1213.6	1237.4
42.5°	1002.9	1045.7	1121.7	1175.6	1200.9
45°	947.4	998.1	1077.4	1137.6	1164.5
47.5°	896.7	947.4	1033.0	1096.4	1126.5
50°	841.3	895.2	985.5	1055.2	1086.9
52.5°	787.4	842.9	937.9	1012.4	1044.1
55°	728.8	792.2	888.8	966.4	999.7
57.5°	670.2	738.3	838.1	918.9	952.2
60°	613.1	682.9	787.4	868.2	903.1
62.5°	556.1	625.8	735.1	817.5	850.8
65°	495.9	568.8	678.1	762.1	795.3
67.5°	435.7	511.7	621.1	705.0	736.7
70°	372.3	453.1	562.4	644.8	676.5
72.5°	313.7	394.5	502.2	583.0	613.1
75°	255.1	335.9	440.4	514.9	535.5
77.5°	198.0	278.8	372.3	421.4	426.2
80°	144.2	220.2	296.3	310.5	308.9
82.5°	96.6	164.8	204.4	206.0	210.7
85°	55.5	103.0	112.5	110.9	112.5
87.5°	22.2	36.4	31.7	23.8	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)