

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: P388902

Luminaire Tested: **24CZ2-60-SQR-UNV-L940-CD1-SDWPD1-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: P388902  
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: 24CZ2-60-SQR-UNV-L940-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4836.2 lumens  
Efficiency: N/A  
Efficacy: 87.0 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

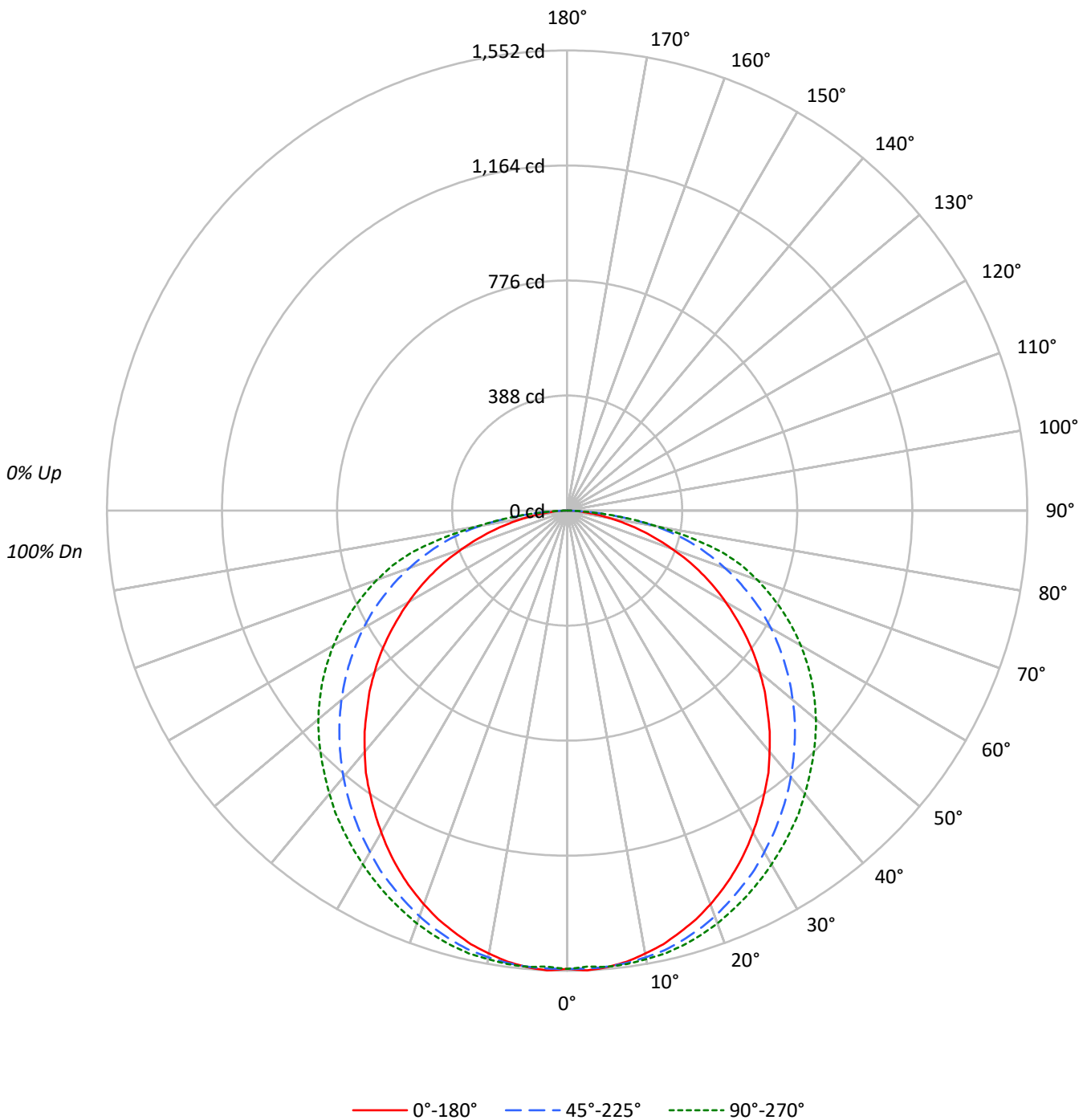
Input Watts (W): 55.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388902

CATALOG NUMBER: 24CZ2-60-SQR-UNV-L940-CD1-SDWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388902

CATALOG NUMBER: 24CZ2-60-SQR-UNV-L940-CD1-SDWPD1-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	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

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

	0°	45°	90°
0°	2080	2080	2080
5°	2088	2086	2086
10°	2073	2090	2099
15°	2051	2091	2113
20°	2024	2085	2122
25°	1989	2075	2129
30°	1948	2067	2141
35°	1907	2062	2161
40°	1865	2062	2191
45°	1817	2066	2234
50°	1775	2079	2293
55°	1723	2102	2364
60°	1663	2136	2450
65°	1592	2176	2552
70°	1476	2230	2683
75°	1337	2308	2806
80°	1126	2314	2413
85°	863	1751	1751



TEST NUMBER: P388902

CATALOG NUMBER: 24CZ2-60-SQR-UNV-L940-CD1-SDWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.7	3.0
10°-20°	422.2	8.7
20°-30°	641.3	13.3
30°-40°	780.0	16.1
40°-50°	830.5	17.2
50°-60°	791.0	16.4
60°-70°	661.5	13.7
70°-80°	441.0	9.1
80°-90°	122.0	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°	1210.2	25.0
0°-40°	1990.2	41.2
0°-60°	3611.7	74.7
0°-90°	4836.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4836.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1546	1546	1546	1546	1546	
5°	1546	1536	1544	1544	1544	147
15°	1472	1476	1501	1512	1517	415
25°	1340	1357	1397	1421	1434	617
35°	1161	1194	1255	1297	1316	727
45°	955	1006	1086	1147	1174	738
55°	735	798	896	974	1008	657
65°	500	573	684	768	802	494
75°	257	339	444	519	540	272
85°	56	104	113	112	113	68
90°	0	0	0	0	0	



TEST NUMBER: P388902

CATALOG NUMBER: 24CZ2-60-SQR-UNV-L940-CD1-SDWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1545.9	1545.9	1545.9	1545.9	1545.9
2.5°	1552.3	1541.1	1545.9	1545.9	1539.5
5°	1545.9	1536.3	1544.3	1544.3	1544.3
7.5°	1534.7	1526.7	1539.5	1542.7	1542.7
10°	1517.1	1513.9	1529.9	1534.7	1536.3
12.5°	1498.0	1496.4	1518.7	1525.1	1529.9
15°	1472.4	1475.6	1501.2	1512.3	1517.1
17.5°	1445.3	1451.7	1480.4	1496.4	1501.2
20°	1413.3	1422.9	1456.5	1472.4	1482.0
22.5°	1378.2	1392.6	1427.7	1446.9	1458.1
25°	1339.9	1357.4	1397.4	1421.3	1434.1
27.5°	1298.4	1320.7	1367.0	1394.2	1406.9
30°	1253.6	1279.2	1330.3	1362.2	1378.2
32.5°	1207.3	1237.7	1293.6	1328.7	1347.9
35°	1161.0	1194.5	1255.2	1296.8	1315.9
37.5°	1114.7	1148.2	1215.3	1260.0	1284.0
40°	1062.0	1101.9	1173.8	1223.3	1247.2
42.5°	1010.9	1054.0	1130.7	1185.0	1210.5
45°	955.0	1006.1	1086.0	1146.6	1173.8
47.5°	903.9	955.0	1041.2	1105.1	1135.5
50°	848.0	902.3	993.3	1063.6	1095.5
52.5°	793.7	849.6	945.4	1020.5	1052.4
55°	734.6	798.5	895.9	974.2	1007.7
57.5°	675.5	744.2	844.8	926.3	959.8
60°	618.0	688.3	793.7	875.1	910.3
62.5°	560.5	630.8	741.0	824.0	857.6
65°	499.9	573.3	683.5	768.2	801.7
67.5°	439.2	515.8	626.0	710.7	742.6
70°	375.3	456.7	566.9	650.0	681.9
72.5°	316.2	397.7	506.2	587.7	618.0
75°	257.1	338.6	444.0	519.0	539.8
77.5°	199.6	281.1	375.3	424.8	429.6
80°	145.3	222.0	298.6	313.0	311.4
82.5°	97.4	166.1	206.0	207.6	212.4
85°	55.9	103.8	113.4	111.8	113.4
87.5°	22.4	36.7	31.9	24.0	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)