

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: P388808

Luminaire Tested: **24CZ2-50VHE-SQR-UNV-L940-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: P388808  
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: 24CZ2-50VHE-SQR-UNV-L940-CD1-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: 4154.4 lumens  
Efficiency: N/A  
Efficacy: 127.0 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

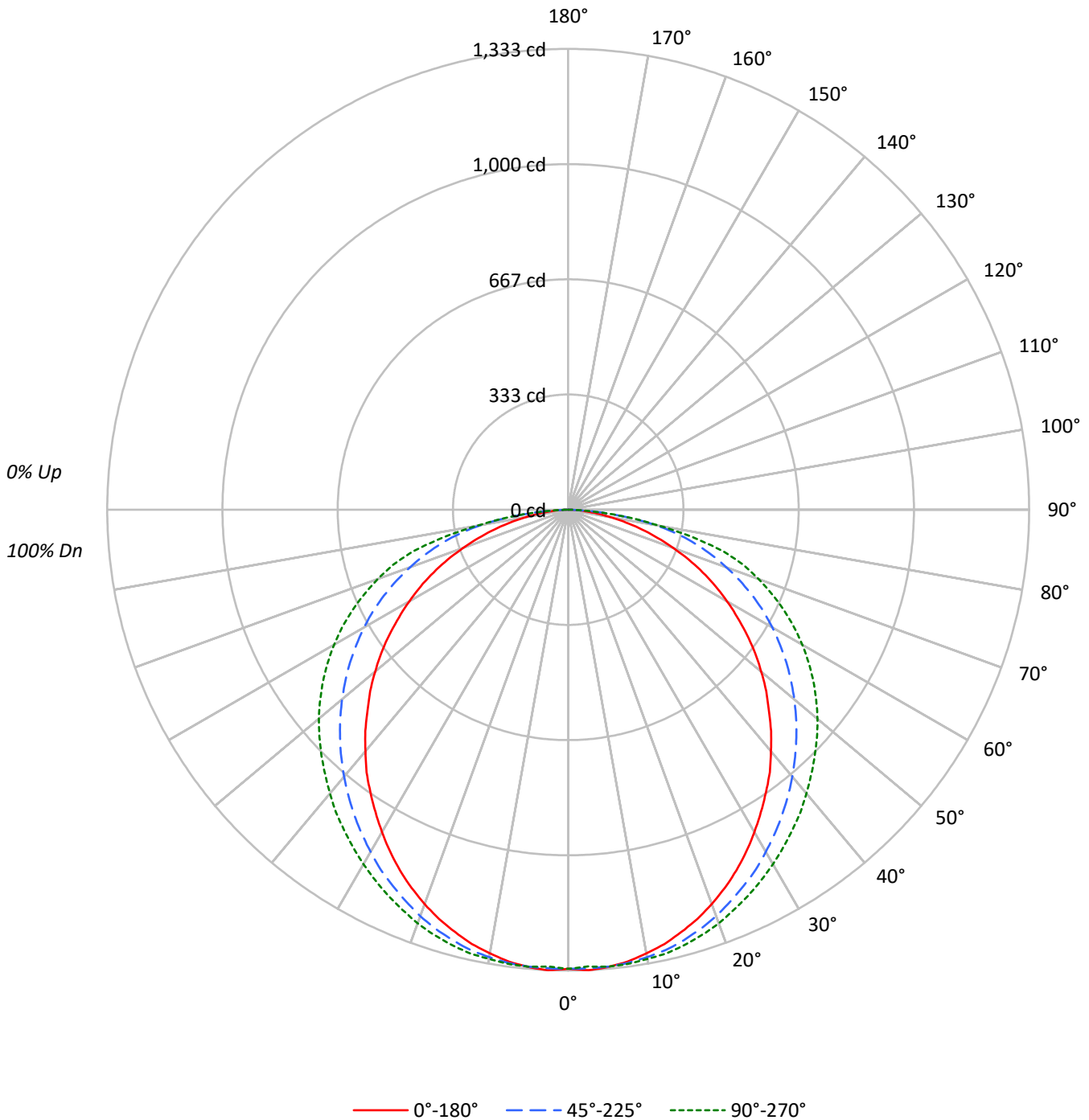
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388808

CATALOG NUMBER: 24CZ2-50VHE-SQR-UNV-L940-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388808

CATALOG NUMBER: 24CZ2-50VHE-SQR-UNV-L940-CD1-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82	82	
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67	67	
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56	56	
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47	47	
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41	41	
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35	35	
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31	31	
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28	28	
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25	25	
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22	22	

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

	0°	45°	90°
0°	1787	1787	1787
5°	1794	1792	1792
10°	1781	1796	1803
15°	1762	1796	1815
20°	1738	1791	1823
25°	1709	1782	1829
30°	1673	1775	1839
35°	1638	1771	1857
40°	1602	1771	1882
45°	1561	1775	1919
50°	1525	1786	1970
55°	1480	1805	2031
60°	1429	1835	2104
65°	1367	1869	2193
70°	1268	1916	2305
75°	1148	1983	2411
80°	967	1987	2073
85°	741	1504	1504



TEST NUMBER: P388808

CATALOG NUMBER: 24CZ2-50VHE-SQR-UNV-L940-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.1	3.0
10°-20°	362.7	8.7
20°-30°	550.9	13.3
30°-40°	670.1	16.1
40°-50°	713.4	17.2
50°-60°	679.5	16.4
60°-70°	568.2	13.7
70°-80°	378.8	9.1
80°-90°	104.8	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°	1039.6	25.0
0°-40°	1709.6	41.2
0°-60°	3102.5	74.7
0°-90°	4154.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4154.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1328	1328	1328	1328	1328	
5°	1328	1320	1327	1327	1327	126
15°	1265	1268	1290	1299	1303	357
25°	1151	1166	1200	1221	1232	530
35°	997	1026	1078	1114	1130	624
45°	820	864	933	985	1008	634
55°	631	686	770	837	866	564
65°	429	492	587	660	689	424
75°	221	291	381	446	464	234
85°	48	89	97	96	97	58
90°	0	0	0	0	0	



TEST NUMBER: P388808

CATALOG NUMBER: 24CZ2-50VHE-SQR-UNV-L940-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1327.9	1327.9	1327.9	1327.9	1327.9
2.5°	1333.4	1323.8	1327.9	1327.9	1322.5
5°	1327.9	1319.7	1326.6	1326.6	1326.6
7.5°	1318.3	1311.5	1322.5	1325.2	1325.2
10°	1303.3	1300.5	1314.2	1318.3	1319.7
12.5°	1286.8	1285.4	1304.6	1310.1	1314.2
15°	1264.8	1267.6	1289.5	1299.1	1303.3
17.5°	1241.5	1247.0	1271.7	1285.4	1289.5
20°	1214.1	1222.3	1251.1	1264.8	1273.1
22.5°	1183.9	1196.3	1226.4	1242.9	1252.5
25°	1151.0	1166.1	1200.4	1220.9	1231.9
27.5°	1115.3	1134.5	1174.3	1197.6	1208.6
30°	1076.9	1098.8	1142.7	1170.2	1183.9
32.5°	1037.1	1063.2	1111.2	1141.4	1157.8
35°	997.3	1026.1	1078.3	1113.9	1130.4
37.5°	957.5	986.4	1044.0	1082.4	1103.0
40°	912.3	946.6	1008.3	1050.8	1071.4
42.5°	868.4	905.4	971.3	1017.9	1039.9
45°	820.4	864.3	932.9	985.0	1008.3
47.5°	776.5	820.4	894.4	949.3	975.4
50°	728.5	775.1	853.3	913.7	941.1
52.5°	681.8	729.8	812.1	876.6	904.0
55°	631.0	685.9	769.6	836.8	865.6
57.5°	580.3	639.3	725.7	795.7	824.5
60°	530.9	591.3	681.8	751.8	782.0
62.5°	481.5	541.9	636.5	707.9	736.7
65°	429.4	492.5	587.2	659.9	688.7
67.5°	377.3	443.1	537.8	610.5	637.9
70°	322.4	392.3	487.0	558.3	585.8
72.5°	271.6	341.6	434.9	504.8	530.9
75°	220.9	290.8	381.4	445.9	463.7
77.5°	171.5	241.4	322.4	364.9	369.0
80°	124.8	190.7	256.5	268.9	267.5
82.5°	83.7	142.7	177.0	178.3	182.5
85°	48.0	89.2	97.4	96.0	97.4
87.5°	19.2	31.6	27.4	20.6	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)