

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: P388254

Luminaire Tested: **22CZ2-90VHE-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: P388254  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-542-6)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-SQR-UNV-L940-CD1-SDWPD1-U  
Description: 2x2 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: 7304.0 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.31 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

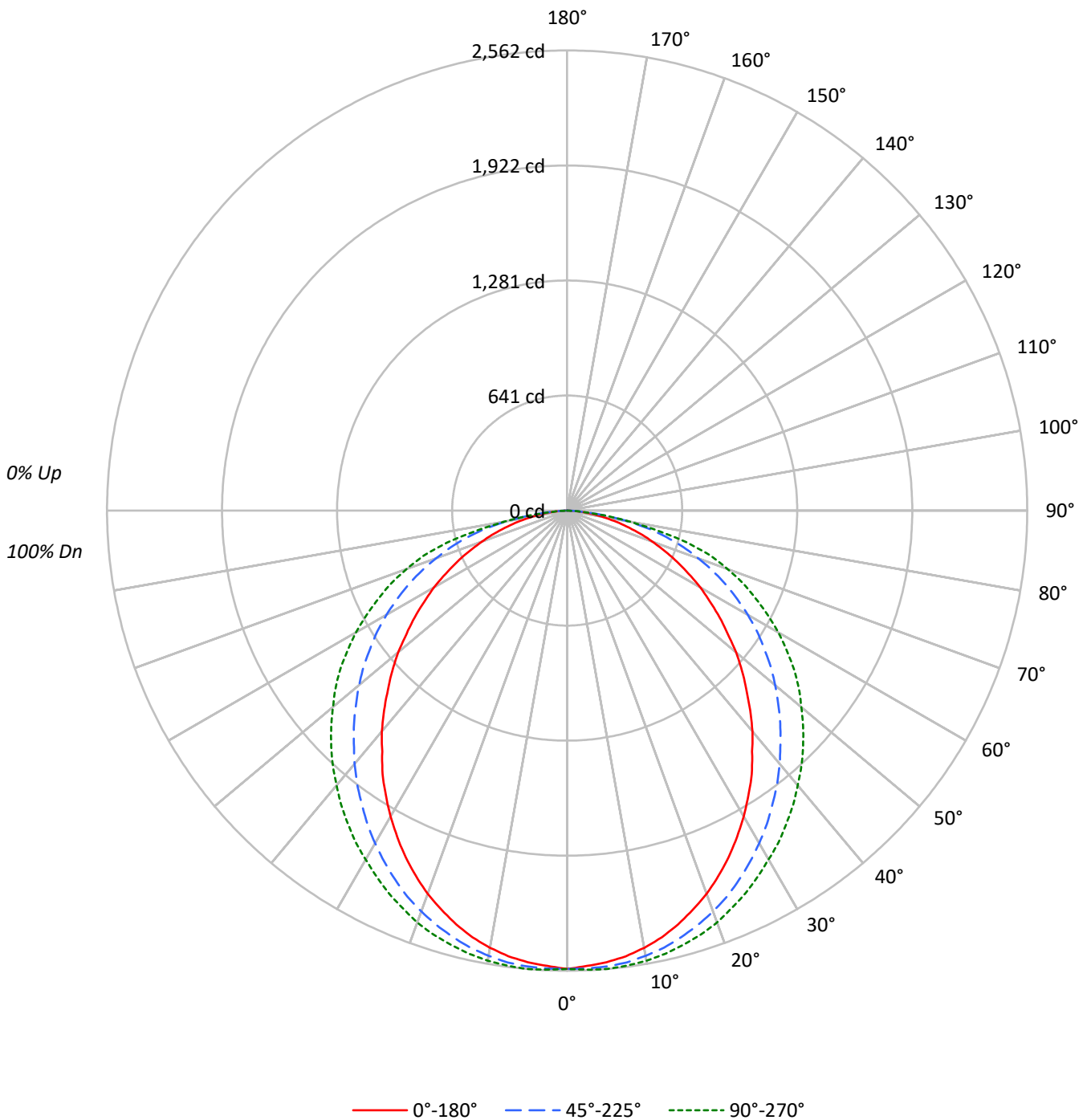
Input Watts (W): 68.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P388254

CATALOG NUMBER: 22CZ2-90VHE-SQR-UNV-L940-CD1-SDWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P388254

CATALOG NUMBER: 22CZ2-90VHE-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	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					100			
1	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83					83			
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69					69			
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43					43			
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

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

	0°	45°	90°
0°	6866	6866	6866
5°	6817	6883	6920
10°	6754	6877	6953
15°	6645	6847	6973
20°	6503	6800	6989
25°	6320	6732	6979
30°	6108	6646	6969
35°	5888	6548	6992
40°	5638	6466	7014
45°	5369	6385	7071
50°	5138	6328	7126
55°	4863	6278	7238
60°	4609	6250	7314
65°	4304	6202	7373
70°	3955	6109	7474
75°	3568	5947	7208
80°	3062	5264	5425
85°	2461	3103	2461



TEST NUMBER: P388254

CATALOG NUMBER: 22CZ2-90VHE-SQR-UNV-L940-CD1-SDWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	241.9	3.3
10°-20°	691.6	9.5
20°-30°	1038.7	14.2
30°-40°	1238.8	17.0
40°-50°	1280.8	17.5
50°-60°	1177.6	16.1
60°-70°	937.4	12.8
70°-80°	572.7	7.8
80°-90°	124.5	1.7
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°	1972.2	27.0
0°-40°	3211.0	44.0
0°-60°	5669.3	77.6
0°-90°	7304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7304.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2552	2552	2552	2552	2552	
5°	2524	2531	2548	2558	2562	239
15°	2385	2413	2458	2492	2503	672
25°	2128	2180	2267	2330	2350	979
35°	1792	1868	1993	2097	2128	1118
45°	1411	1512	1678	1813	1858	1091
55°	1036	1151	1338	1491	1543	927
65°	676	790	974	1109	1158	670
75°	343	444	572	672	693	366
85°	80	97	100	87	80	92
90°	0	0	0	0	0	



TEST NUMBER: P388254

CATALOG NUMBER: 22CZ2-90VHE-SQR-UNV-L940-CD1-SDWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2551.5	2551.5	2551.5	2551.5	2551.5
2.5°	2537.6	2541.1	2551.5	2558.4	2558.4
5°	2523.7	2530.7	2548.0	2558.4	2561.9
7.5°	2502.9	2513.3	2537.6	2551.5	2554.9
10°	2471.7	2485.6	2516.8	2537.6	2544.5
12.5°	2433.6	2454.4	2492.5	2520.3	2527.2
15°	2385.1	2412.8	2457.9	2492.5	2502.9
17.5°	2329.6	2364.3	2419.7	2461.3	2475.2
20°	2270.7	2305.3	2374.7	2423.2	2440.5
22.5°	2201.3	2246.4	2326.1	2381.6	2395.5
25°	2128.5	2180.5	2267.2	2329.6	2350.4
27.5°	2048.8	2111.2	2204.8	2281.1	2298.4
30°	1965.6	2031.5	2138.9	2222.1	2242.9
32.5°	1878.9	1955.2	2069.6	2163.2	2190.9
35°	1792.3	1868.5	1993.3	2097.3	2128.5
37.5°	1691.7	1781.9	1920.5	2028.0	2066.1
40°	1605.1	1691.7	1840.8	1958.7	1996.8
42.5°	1508.0	1601.6	1757.6	1885.9	1930.9
45°	1410.9	1511.5	1677.9	1813.1	1858.1
47.5°	1320.8	1421.3	1594.7	1736.8	1781.9
50°	1227.2	1331.2	1511.5	1657.1	1702.1
52.5°	1126.7	1241.1	1428.3	1573.9	1625.9
55°	1036.5	1150.9	1338.1	1490.7	1542.7
57.5°	942.9	1060.8	1254.9	1400.5	1449.1
60°	856.3	970.7	1161.3	1303.5	1358.9
62.5°	762.7	880.5	1067.7	1206.4	1258.4
65°	676.0	790.4	974.1	1109.3	1157.9
67.5°	589.3	703.7	877.1	1005.3	1060.8
70°	502.7	617.1	776.5	901.3	949.9
72.5°	426.4	526.9	679.5	793.9	838.9
75°	343.2	443.7	572.0	672.5	693.3
77.5°	266.9	357.1	464.5	509.6	516.5
80°	197.6	266.9	339.7	350.1	350.1
82.5°	131.7	183.7	211.5	214.9	211.5
85°	79.7	97.1	100.5	86.7	79.7
87.5°	27.7	27.7	17.3	10.4	3.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)