

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: P388160

Luminaire Tested: **22CZ2-70VHE-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: P388160  
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: 22CZ2-70VHE-SQR-UNV-L940-CD1-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: 5756.6 lumens  
Efficiency: N/A  
Efficacy: 114.4 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

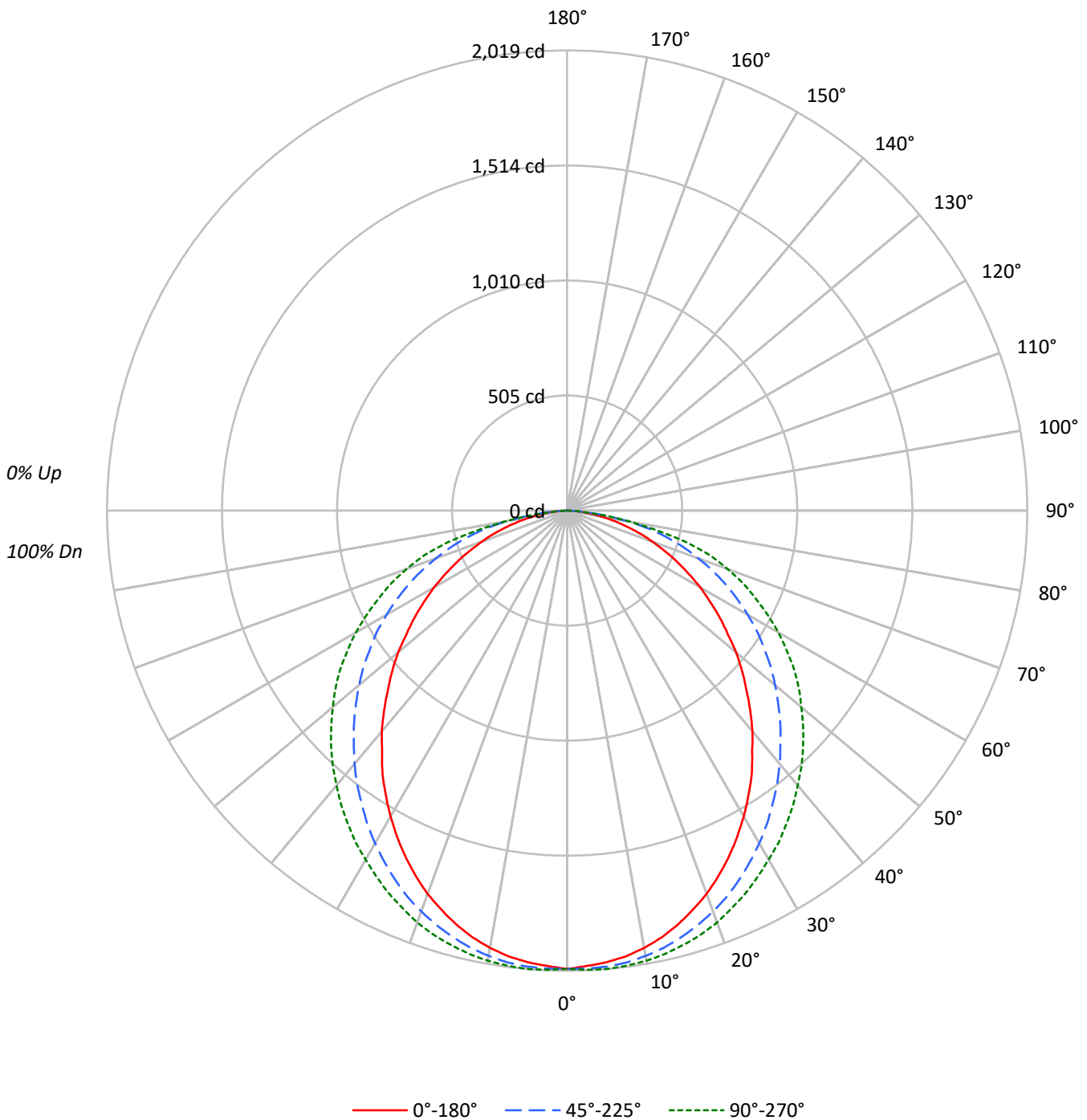
Input Watts (W): 50.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	5411	5411	5411
5°	5373	5425	5454
10°	5323	5420	5480
15°	5237	5397	5496
20°	5125	5360	5508
25°	4981	5306	5500
30°	4814	5238	5493
35°	4641	5161	5511
40°	4444	5096	5528
45°	4232	5033	5573
50°	4049	4987	5616
55°	3833	4948	5704
60°	3632	4926	5764
65°	3393	4889	5811
70°	3117	4815	5890
75°	2812	4687	5681
80°	2413	4150	4277
85°	1939	2445	1939



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.6	3.3
10°-20°	545.1	9.5
20°-30°	818.6	14.2
30°-40°	976.4	17.0
40°-50°	1009.5	17.5
50°-60°	928.1	16.1
60°-70°	738.8	12.8
70°-80°	451.4	7.8
80°-90°	98.1	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°	1554.3	27.0
0°-40°	2530.7	44.0
0°-60°	4468.3	77.6
0°-90°	5756.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5756.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2011	2011	2011	2011	2011	
5°	1989	1994	2008	2016	2019	189
15°	1880	1902	1937	1964	1973	529
25°	1678	1719	1787	1836	1852	772
35°	1413	1473	1571	1653	1678	881
45°	1112	1191	1322	1429	1464	860
55°	817	907	1055	1175	1216	731
65°	533	623	768	874	913	528
75°	270	350	451	530	546	288
85°	63	76	79	68	63	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2010.9	2010.9	2010.9	2010.9	2010.9
2.5°	2000.0	2002.7	2010.9	2016.4	2016.4
5°	1989.1	1994.5	2008.2	2016.4	2019.1
7.5°	1972.7	1980.9	2000.0	2010.9	2013.7
10°	1948.1	1959.0	1983.6	2000.0	2005.5
12.5°	1918.0	1934.4	1964.5	1986.3	1991.8
15°	1879.8	1901.6	1937.1	1964.5	1972.7
17.5°	1836.1	1863.4	1907.1	1939.9	1950.8
20°	1789.6	1816.9	1871.6	1909.8	1923.5
22.5°	1735.0	1770.5	1833.3	1877.0	1888.0
25°	1677.6	1718.6	1786.9	1836.1	1852.4
27.5°	1614.7	1663.9	1737.7	1797.8	1811.5
30°	1549.2	1601.1	1685.8	1751.4	1767.8
32.5°	1480.9	1541.0	1631.1	1704.9	1726.8
35°	1412.6	1472.7	1571.0	1653.0	1677.6
37.5°	1333.3	1404.4	1513.7	1598.4	1628.4
40°	1265.0	1333.3	1450.8	1543.7	1573.8
42.5°	1188.5	1262.3	1385.2	1486.3	1521.9
45°	1112.0	1191.3	1322.4	1429.0	1464.5
47.5°	1041.0	1120.2	1256.8	1368.8	1404.4
50°	967.2	1049.2	1191.3	1306.0	1341.5
52.5°	888.0	978.1	1125.7	1240.4	1281.4
55°	816.9	907.1	1054.6	1174.9	1215.8
57.5°	743.2	836.1	989.1	1103.8	1142.1
60°	674.9	765.0	915.3	1027.3	1071.0
62.5°	601.1	694.0	841.5	950.8	991.8
65°	532.8	622.9	767.8	874.3	912.6
67.5°	464.5	554.6	691.3	792.3	836.1
70°	396.2	486.3	612.0	710.4	748.6
72.5°	336.1	415.3	535.5	625.7	661.2
75°	270.5	349.7	450.8	530.1	546.4
77.5°	210.4	281.4	366.1	401.6	407.1
80°	155.7	210.4	267.8	276.0	276.0
82.5°	103.8	144.8	166.7	169.4	166.7
85°	62.8	76.5	79.2	68.3	62.8
87.5°	21.9	21.9	13.7	8.2	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)