

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: P388111

Luminaire Tested: **22CZ2-60VHE-SQR-UNV-L940-CD1-SWPD1-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: P388111  
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: 22CZ2-60VHE-SQR-UNV-L940-CD1-SWPD1-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: 4950.4 lumens  
Efficiency: N/A  
Efficacy: 112.3 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

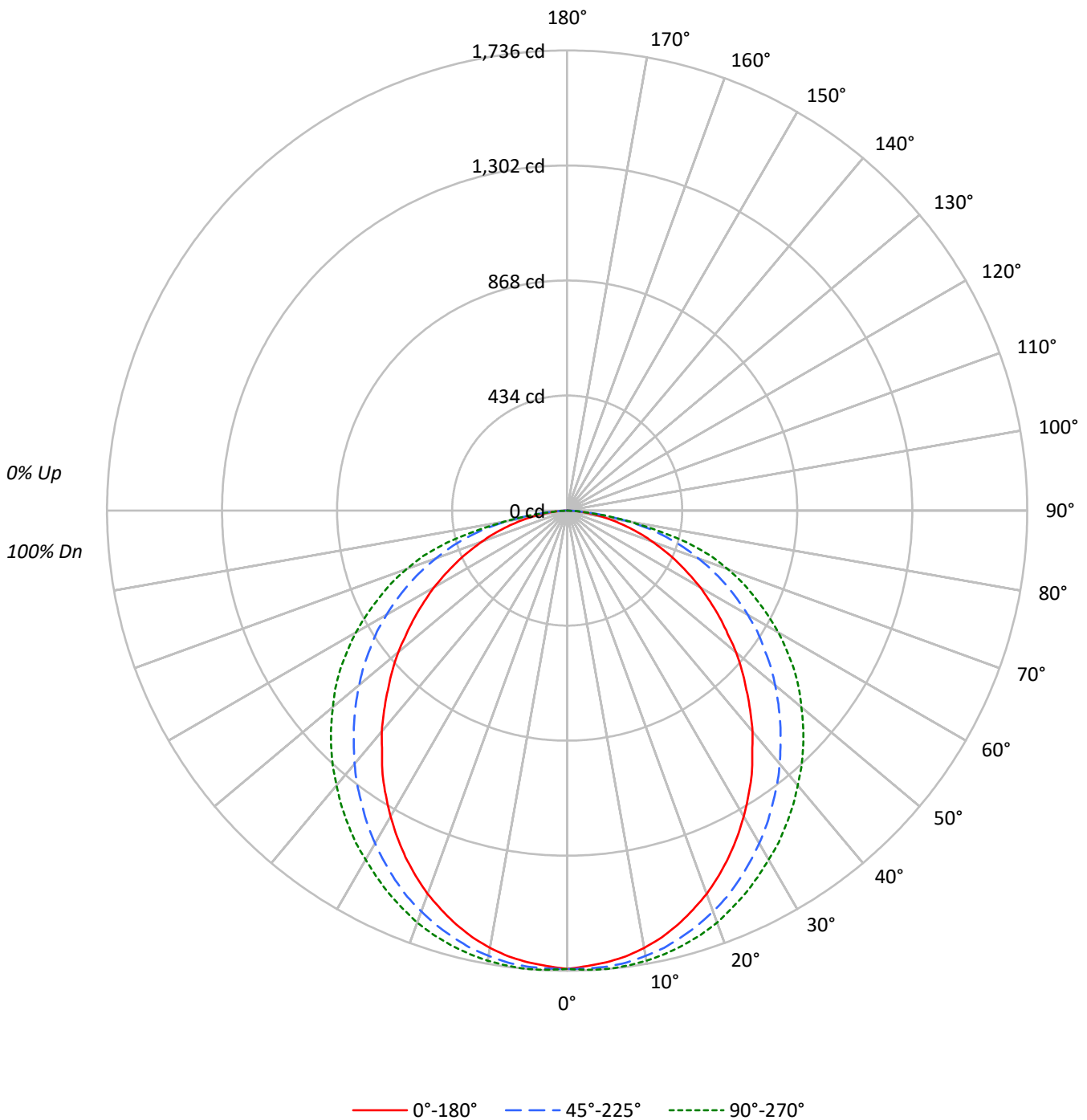
Input Watts (W): 44.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4654	4654	4654
5°	4621	4665	4690
10°	4578	4661	4712
15°	4503	4641	4726
20°	4407	4609	4737
25°	4283	4562	4730
30°	4140	4505	4724
35°	3990	4438	4739
40°	3822	4383	4754
45°	3639	4328	4793
50°	3482	4289	4829
55°	3296	4255	4906
60°	3123	4236	4957
65°	2918	4204	4997
70°	2681	4141	5065
75°	2418	4031	4886
80°	2075	3569	3677
85°	1667	2103	1667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.9	3.3
10°-20°	468.7	9.5
20°-30°	704.0	14.2
30°-40°	839.6	17.0
40°-50°	868.1	17.5
50°-60°	798.1	16.1
60°-70°	635.4	12.8
70°-80°	388.2	7.8
80°-90°	84.4	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°	1336.7	27.0
0°-40°	2176.3	44.0
0°-60°	3842.5	77.6
0°-90°	4950.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4950.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1729	1729	1729	1729	1729	
5°	1710	1715	1727	1734	1736	162
15°	1616	1635	1666	1689	1696	455
25°	1443	1478	1537	1579	1593	664
35°	1215	1266	1351	1422	1443	758
45°	956	1024	1137	1229	1259	740
55°	702	780	907	1010	1046	628
65°	458	536	660	752	785	454
75°	233	301	388	456	470	248
85°	54	66	68	59	54	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1729.3	1729.3	1729.3	1729.3	1729.3
2.5°	1719.9	1722.2	1729.3	1734.0	1734.0
5°	1710.5	1715.2	1726.9	1734.0	1736.3
7.5°	1696.4	1703.4	1719.9	1729.3	1731.6
10°	1675.3	1684.7	1705.8	1719.9	1724.6
12.5°	1649.4	1663.5	1689.4	1708.1	1712.8
15°	1616.5	1635.3	1665.9	1689.4	1696.4
17.5°	1578.9	1602.4	1640.0	1668.2	1677.6
20°	1539.0	1562.5	1609.5	1642.4	1654.1
22.5°	1492.0	1522.5	1576.6	1614.2	1623.6
25°	1442.6	1477.9	1536.6	1578.9	1593.0
27.5°	1388.6	1430.9	1494.3	1546.0	1557.8
30°	1332.2	1376.9	1449.7	1506.1	1520.2
32.5°	1273.5	1325.2	1402.7	1466.1	1484.9
35°	1214.7	1266.4	1351.0	1421.5	1442.6
37.5°	1146.6	1207.7	1301.7	1374.5	1400.4
40°	1087.9	1146.6	1247.6	1327.5	1353.4
42.5°	1022.1	1085.5	1191.2	1278.2	1308.7
45°	956.3	1024.4	1137.2	1228.8	1259.4
47.5°	895.2	963.3	1080.8	1177.1	1207.7
50°	831.8	902.2	1024.4	1123.1	1153.6
52.5°	763.6	841.2	968.0	1066.7	1102.0
55°	702.5	780.1	906.9	1010.3	1045.6
57.5°	639.1	719.0	850.5	949.2	982.1
60°	580.3	657.9	787.1	883.4	921.0
62.5°	516.9	596.8	723.7	817.7	852.9
65°	458.2	535.7	660.2	751.9	784.8
67.5°	399.4	477.0	594.4	681.4	719.0
70°	340.7	418.2	526.3	610.9	643.8
72.5°	289.0	357.1	460.5	538.1	568.6
75°	232.6	300.7	387.7	455.8	469.9
77.5°	180.9	242.0	314.8	345.4	350.1
80°	133.9	180.9	230.3	237.3	237.3
82.5°	89.3	124.5	143.3	145.7	143.3
85°	54.0	65.8	68.1	58.7	54.0
87.5°	18.8	18.8	11.7	7.0	2.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)