

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: P388107

Luminaire Tested: **22CZ2-60VHE-SQR-UNV-L935-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: P388107  
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-L935-CD1-SDWPD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4840.6 lumens  
Efficiency: N/A  
Efficacy: 109.8 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

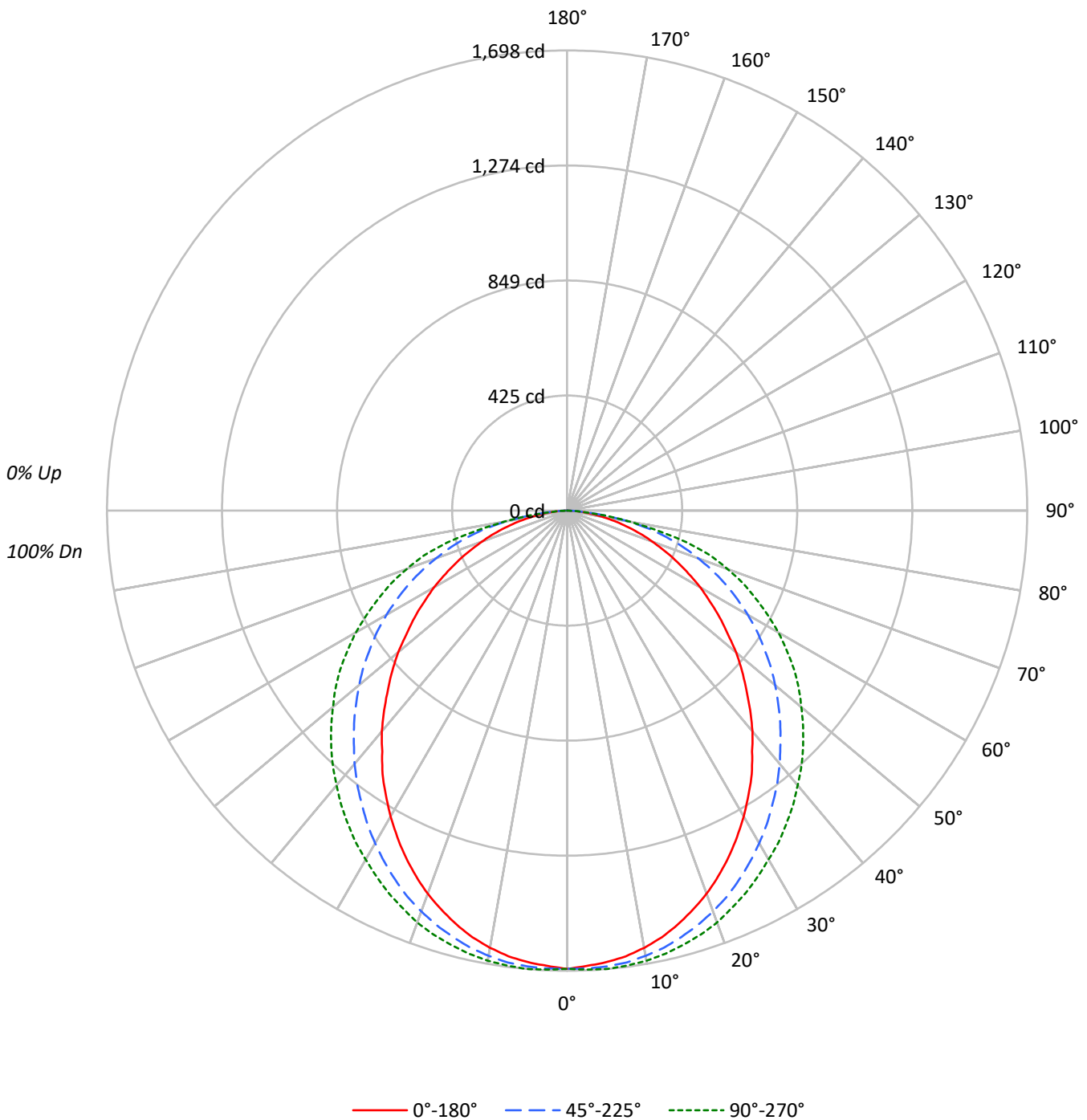
Input Watts (W): 44.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4550	4550	4550
5°	4518	4561	4586
10°	4476	4558	4608
15°	4404	4538	4621
20°	4309	4507	4632
25°	4188	4461	4625
30°	4048	4405	4619
35°	3902	4340	4634
40°	3737	4286	4649
45°	3559	4232	4686
50°	3405	4194	4723
55°	3223	4160	4797
60°	3054	4142	4847
65°	2853	4111	4886
70°	2621	4049	4953
75°	2364	3942	4777
80°	2030	3490	3595
85°	1630	2056	1630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.3	3.3
10°-20°	458.3	9.5
20°-30°	688.4	14.2
30°-40°	821.0	17.0
40°-50°	848.8	17.5
50°-60°	780.4	16.1
60°-70°	621.3	12.8
70°-80°	379.6	7.8
80°-90°	82.5	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°	1307.0	27.0
0°-40°	2128.0	44.0
0°-60°	3757.2	77.6
0°-90°	4840.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4840.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1691	1691	1691	1691	1691	
5°	1673	1677	1689	1696	1698	159
15°	1581	1599	1629	1652	1659	445
25°	1411	1445	1502	1544	1558	649
35°	1188	1238	1321	1390	1411	741
45°	935	1002	1112	1202	1231	723
55°	687	763	887	988	1022	614
65°	448	524	646	735	767	444
75°	227	294	379	446	460	242
85°	53	64	67	57	53	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1690.9	1690.9	1690.9	1690.9	1690.9
2.5°	1681.7	1684.0	1690.9	1695.5	1695.5
5°	1672.6	1677.2	1688.6	1695.5	1697.8
7.5°	1658.8	1665.7	1681.7	1690.9	1693.2
10°	1638.1	1647.3	1668.0	1681.7	1686.3
12.5°	1612.8	1626.6	1651.9	1670.3	1674.9
15°	1580.7	1599.0	1628.9	1651.9	1658.8
17.5°	1543.9	1566.9	1603.6	1631.2	1640.4
20°	1504.8	1527.8	1573.8	1605.9	1617.4
22.5°	1458.9	1488.8	1541.6	1578.4	1587.6
25°	1410.6	1445.1	1502.5	1543.9	1557.7
27.5°	1357.8	1399.2	1461.2	1511.7	1523.2
30°	1302.7	1346.3	1417.5	1472.7	1486.5
32.5°	1245.2	1295.8	1371.6	1433.6	1452.0
35°	1187.8	1238.3	1321.0	1390.0	1410.6
37.5°	1121.2	1180.9	1272.8	1344.0	1369.3
40°	1063.7	1121.2	1220.0	1298.1	1323.3
42.5°	999.4	1061.4	1164.8	1249.8	1279.7
45°	935.1	1001.7	1112.0	1201.6	1231.4
47.5°	875.3	942.0	1056.8	1151.0	1180.9
50°	813.3	882.2	1001.7	1098.2	1128.1
52.5°	746.7	822.5	946.6	1043.1	1077.5
55°	686.9	762.8	886.8	987.9	1022.4
57.5°	624.9	703.0	831.7	928.2	960.3
60°	567.5	643.3	769.7	863.8	900.6
62.5°	505.4	583.6	707.6	799.5	834.0
65°	448.0	523.8	645.6	735.2	767.4
67.5°	390.6	466.4	581.3	666.3	703.0
70°	333.1	408.9	514.6	597.3	629.5
72.5°	282.6	349.2	450.3	526.1	556.0
75°	227.4	294.1	379.1	445.7	459.5
77.5°	176.9	236.6	307.9	337.7	342.3
80°	131.0	176.9	225.2	232.0	232.0
82.5°	87.3	121.8	140.1	142.4	140.1
85°	52.8	64.3	66.6	57.4	52.8
87.5°	18.4	18.4	11.5	6.9	2.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)