

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: P387677

Luminaire Tested: **22CZ2-20HE-SQR-UNV-L935-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: P387677  
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: 22CZ2-20HE-SQR-UNV-L935-CD1-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: 1659.7 lumens  
Efficiency: N/A  
Efficacy: 103.7 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

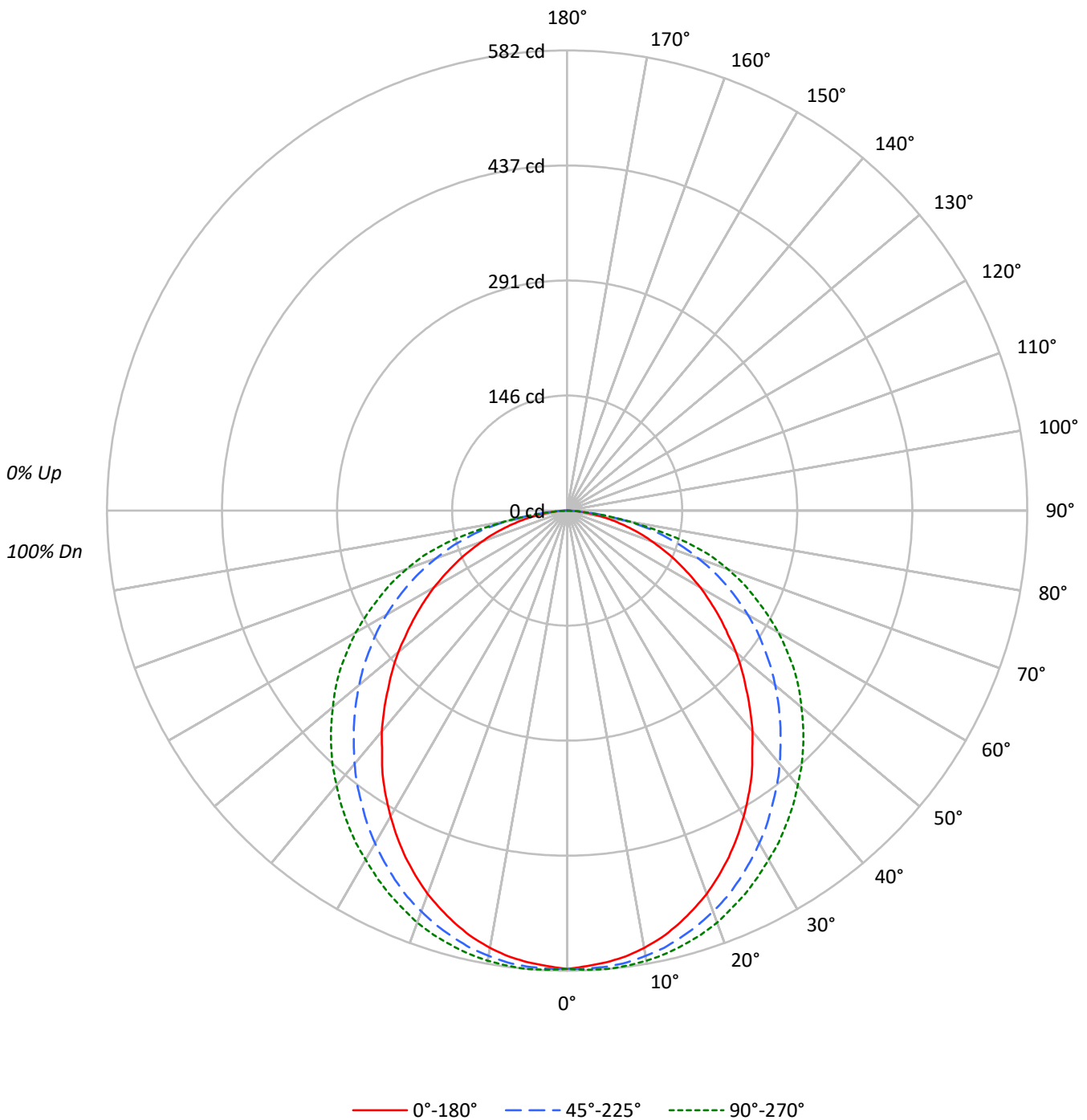
Input Watts (W): 16  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1560	1560	1560
5°	1549	1564	1572
10°	1535	1563	1580
15°	1510	1556	1584
20°	1478	1545	1588
25°	1436	1530	1586
30°	1388	1510	1584
35°	1338	1488	1589
40°	1281	1469	1594
45°	1220	1451	1607
50°	1168	1438	1619
55°	1105	1427	1644
60°	1047	1420	1662
65°	978	1410	1675
70°	899	1389	1698
75°	811	1352	1638
80°	696	1196	1234
85°	559	704	559



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.0	3.3
10°-20°	157.1	9.5
20°-30°	236.0	14.2
30°-40°	281.5	17.0
40°-50°	291.1	17.5
50°-60°	267.6	16.1
60°-70°	213.0	12.8
70°-80°	130.1	7.8
80°-90°	28.3	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°	448.1	27.0
0°-40°	729.6	44.0
0°-60°	1288.3	77.6
0°-90°	1659.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1659.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	574	575	579	581	582	54
15°	542	548	558	566	569	153
25°	484	496	515	529	534	222
35°	407	425	453	477	484	254
45°	321	344	381	412	422	248
55°	236	262	304	339	350	211
65°	154	180	221	252	263	152
75°	78	101	130	153	158	83
85°	18	22	23	20	18	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	579.8	579.8	579.8	579.8	579.8
2.5°	576.6	577.4	579.8	581.3	581.3
5°	573.5	575.0	579.0	581.3	582.1
7.5°	568.7	571.1	576.6	579.8	580.6
10°	561.7	564.8	571.9	576.6	578.2
12.5°	553.0	557.7	566.4	572.7	574.3
15°	542.0	548.3	558.5	566.4	568.7
17.5°	529.4	537.2	549.8	559.3	562.4
20°	516.0	523.8	539.6	550.6	554.6
22.5°	500.2	510.5	528.6	541.2	544.3
25°	483.7	495.5	515.2	529.4	534.1
27.5°	465.6	479.7	501.0	518.3	522.3
30°	446.6	461.6	486.0	504.9	509.7
32.5°	427.0	444.3	470.3	491.5	497.8
35°	407.3	424.6	452.9	476.6	483.7
37.5°	384.4	404.9	436.4	460.8	469.5
40°	364.7	384.4	418.3	445.1	453.7
42.5°	342.7	363.9	399.4	428.5	438.8
45°	320.6	343.5	381.3	412.0	422.2
47.5°	300.1	323.0	362.4	394.7	404.9
50°	278.9	302.5	343.5	376.5	386.8
52.5°	256.0	282.0	324.5	357.6	369.4
55°	235.5	261.5	304.1	338.7	350.5
57.5°	214.3	241.0	285.2	318.2	329.3
60°	194.6	220.6	263.9	296.2	308.8
62.5°	173.3	200.1	242.6	274.1	285.9
65°	153.6	179.6	221.4	252.1	263.1
67.5°	133.9	159.9	199.3	228.4	241.0
70°	114.2	140.2	176.5	204.8	215.8
72.5°	96.9	119.7	154.4	180.4	190.6
75°	78.0	100.8	130.0	152.8	157.5
77.5°	60.7	81.1	105.6	115.8	117.4
80°	44.9	60.7	77.2	79.6	79.6
82.5°	29.9	41.7	48.1	48.8	48.1
85°	18.1	22.1	22.8	19.7	18.1
87.5°	6.3	6.3	3.9	2.4	0.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)