

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: P390167

Luminaire Tested: **22CZ2-24VHE-HRP-UNV-L930-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: P390167  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-24VHE-HRP-UNV-L930-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1751.6 lumens  
Efficiency: N/A  
Efficacy: 100.1 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

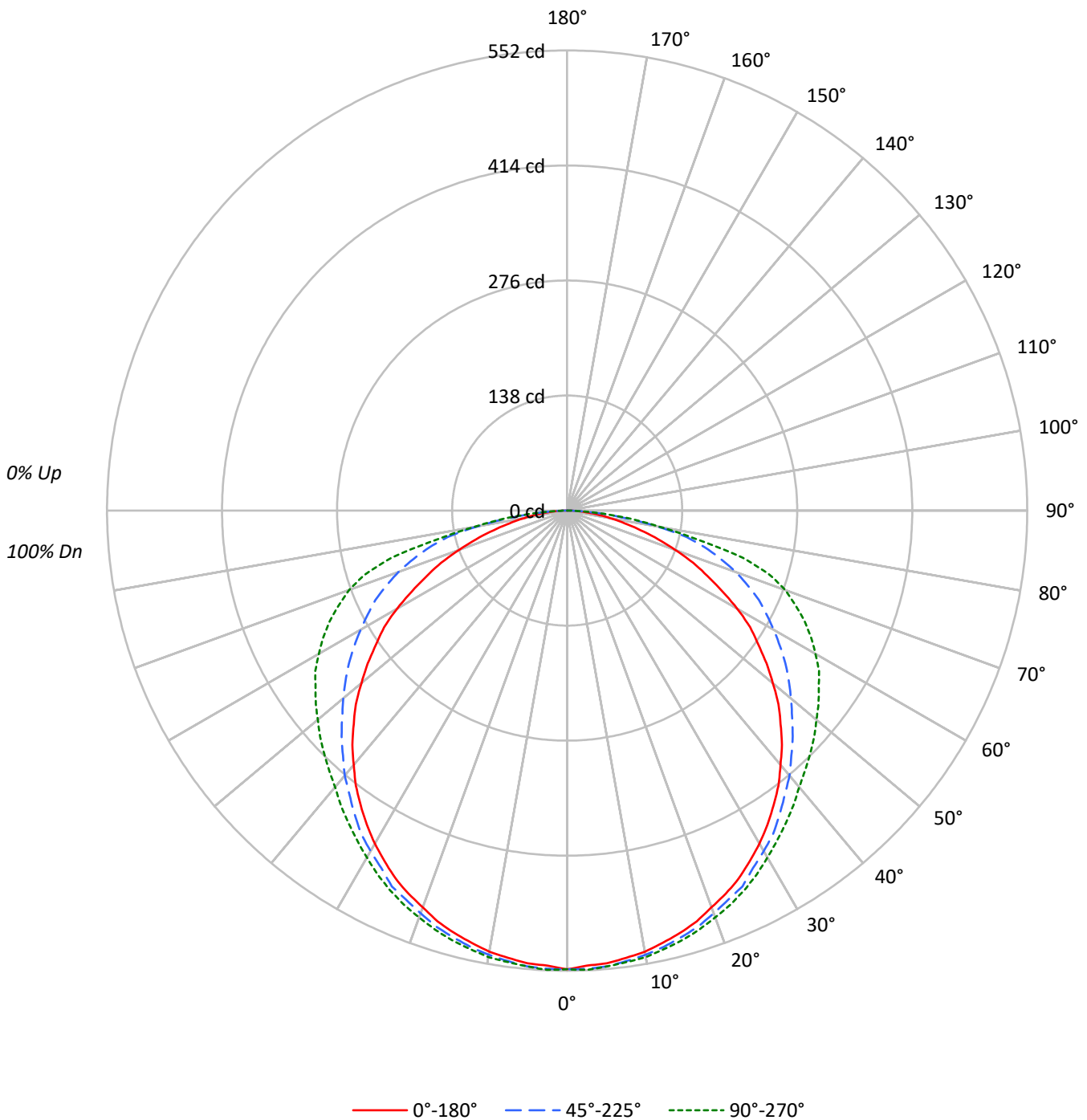
Input Watts (W): 17.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P390167

CATALOG NUMBER: 22CZ2-24VHE-HRP-UNV-L930-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P390167

CATALOG NUMBER: 22CZ2-24VHE-HRP-UNV-L930-CD1-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1481	1481	1481
5°	1472	1483	1483
10°	1468	1479	1486
15°	1461	1475	1486
20°	1450	1472	1487
25°	1446	1477	1492
30°	1433	1465	1493
35°	1418	1460	1503
40°	1399	1457	1521
45°	1378	1456	1569
50°	1348	1467	1634
55°	1312	1499	1729
60°	1269	1540	1851
65°	1182	1616	2002
70°	1085	1693	2190
75°	951	1782	2264
80°	818	1697	1777
85°	716	1232	1352



TEST NUMBER: P390167

CATALOG NUMBER: 22CZ2-24VHE-HRP-UNV-L930-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.0	3.0
10°-20°	149.4	8.5
20°-30°	228.0	13.0
30°-40°	278.4	15.9
40°-50°	297.6	17.0
50°-60°	287.3	16.4
60°-70°	247.3	14.1
70°-80°	167.3	9.6
80°-90°	44.1	2.5
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°	429.5	24.5
0°-40°	707.9	40.4
0°-60°	1292.8	73.8
0°-90°	1751.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1751.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	550	550	550	550	550	
5°	545	546	549	549	549	52
15°	524	526	530	532	534	148
25°	487	490	497	500	502	224
35°	432	436	444	454	457	270
45°	362	368	383	402	412	279
55°	280	289	320	352	368	251
65°	186	204	254	294	314	185
75°	92	121	171	206	218	98
85°	23	32	40	41	44	26
90°	0	0	0	0	0	



TEST NUMBER: P390167

CATALOG NUMBER: 22CZ2-24VHE-HRP-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	550.2	550.2	550.2	550.2	550.2
2.5°	546.3	547.6	550.2	550.2	551.5
5°	545.1	546.3	548.9	548.9	548.9
7.5°	541.2	542.5	545.1	546.3	546.3
10°	537.3	538.6	541.2	542.5	543.8
12.5°	530.9	532.2	536.0	538.6	538.6
15°	524.4	525.7	529.6	532.2	533.5
17.5°	516.7	519.3	523.1	525.7	527.0
20°	506.4	509.0	514.1	518.0	519.3
22.5°	497.4	500.0	505.1	509.0	511.6
25°	487.1	489.6	497.4	500.0	502.5
27.5°	474.2	476.8	483.2	488.4	492.2
30°	461.3	463.9	471.6	478.0	480.6
32.5°	447.1	451.0	460.0	465.2	469.0
35°	431.7	435.5	444.5	453.6	457.4
37.5°	416.2	420.1	429.1	440.7	445.8
40°	398.2	403.3	414.9	430.4	433.0
42.5°	381.4	387.9	398.2	416.2	422.6
45°	362.1	368.5	382.7	402.0	412.3
47.5°	344.0	350.5	365.9	389.1	402.0
50°	322.1	331.2	350.5	377.5	390.4
52.5°	301.5	309.3	335.0	364.7	380.1
55°	279.6	288.6	319.6	351.8	368.5
57.5°	260.3	268.0	302.8	338.9	358.2
60°	235.8	246.1	286.1	324.7	344.0
62.5°	210.0	225.5	269.3	309.3	329.9
65°	185.6	203.6	253.8	293.8	314.4
67.5°	163.6	183.0	234.5	277.0	296.4
70°	137.9	162.4	215.2	256.4	278.3
72.5°	114.7	141.7	193.3	234.5	253.8
75°	91.5	121.1	171.4	206.2	217.8
77.5°	70.9	99.2	146.9	157.2	158.5
80°	52.8	78.6	109.5	110.8	114.7
82.5°	36.1	55.4	70.9	77.3	78.6
85°	23.2	32.2	39.9	41.2	43.8
87.5°	10.3	11.6	14.2	12.9	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)