

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: P390170

Luminaire Tested: **22CZ2-24VHE-HRP-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: P390170  
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-L935-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1794.9 lumens  
Efficiency: N/A  
Efficacy: 102.6 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

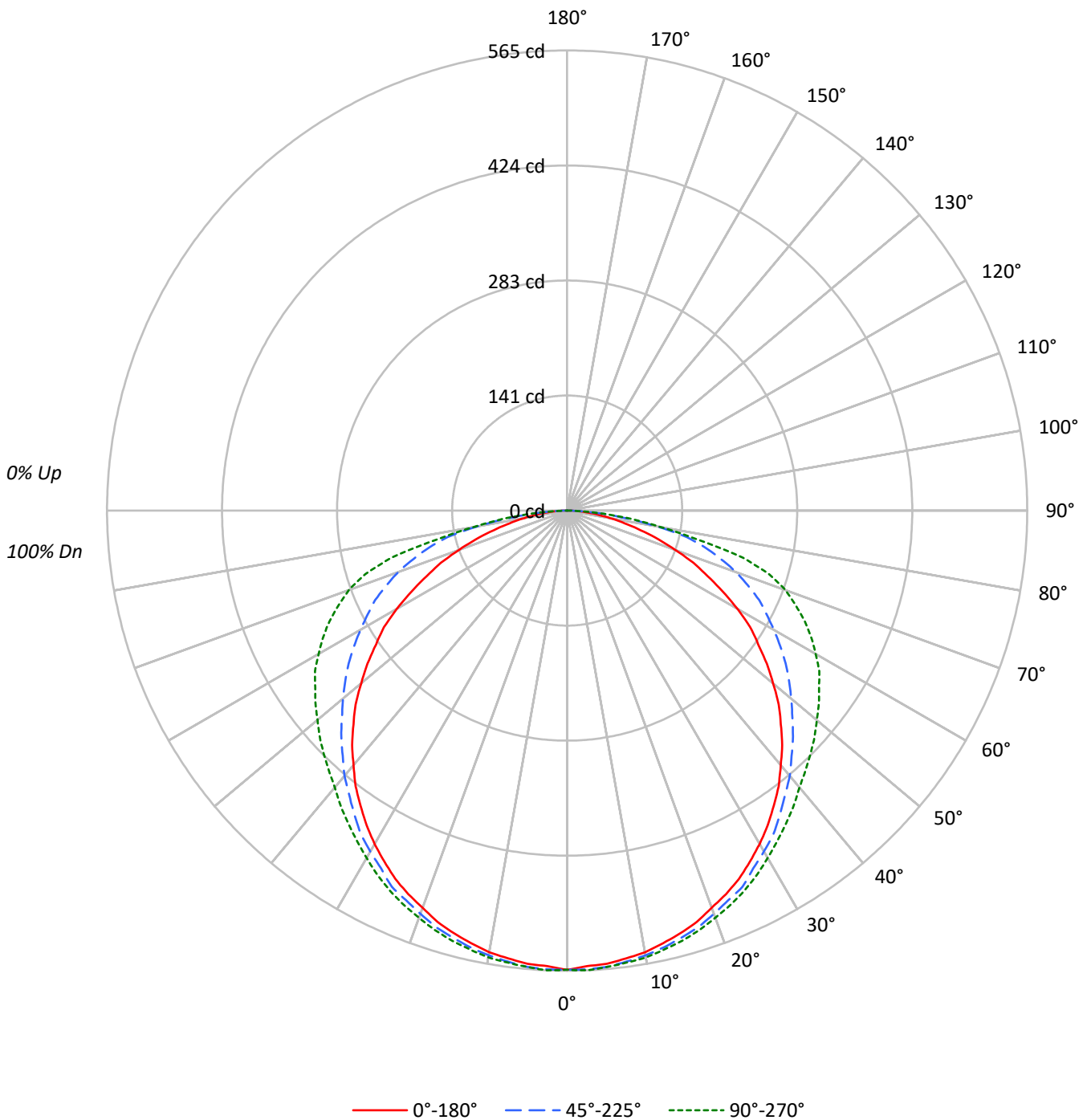
Input Watts (W): 17.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1517	1517	1517
5°	1509	1519	1519
10°	1505	1515	1523
15°	1497	1512	1523
20°	1486	1509	1524
25°	1482	1513	1529
30°	1469	1502	1530
35°	1453	1496	1540
40°	1433	1494	1559
45°	1412	1493	1608
50°	1382	1503	1675
55°	1344	1536	1772
60°	1300	1577	1897
65°	1210	1656	2052
70°	1112	1735	2244
75°	974	1826	2320
80°	838	1739	1821
85°	735	1263	1386



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.3	3.0
10°-20°	153.1	8.5
20°-30°	233.6	13.0
30°-40°	285.3	15.9
40°-50°	305.0	17.0
50°-60°	294.4	16.4
60°-70°	253.4	14.1
70°-80°	171.5	9.6
80°-90°	45.2	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°	440.1	24.5
0°-40°	725.3	40.4
0°-60°	1324.8	73.8
0°-90°	1794.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1794.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	564	564	564	564	564	
5°	558	560	562	562	562	53
15°	537	539	543	545	547	152
25°	499	502	510	512	515	230
35°	442	446	456	465	469	277
45°	371	378	392	412	422	286
55°	286	296	328	360	378	257
65°	190	209	260	301	322	189
75°	94	124	176	211	223	101
85°	24	33	41	42	45	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	563.8	563.8	563.8	563.8	563.8
2.5°	559.8	561.2	563.8	563.8	565.1
5°	558.5	559.8	562.5	562.5	562.5
7.5°	554.6	555.9	558.5	559.8	559.8
10°	550.6	551.9	554.6	555.9	557.2
12.5°	544.0	545.3	549.3	551.9	551.9
15°	537.4	538.7	542.7	545.3	546.6
17.5°	529.5	532.1	536.1	538.7	540.0
20°	518.9	521.6	526.8	530.8	532.1
22.5°	509.7	512.3	517.6	521.6	524.2
25°	499.1	501.8	509.7	512.3	515.0
27.5°	485.9	488.5	495.1	500.4	504.4
30°	472.7	475.3	483.3	489.9	492.5
32.5°	458.2	462.1	471.4	476.7	480.6
35°	442.3	446.3	455.5	464.8	468.7
37.5°	426.5	430.4	439.7	451.6	456.9
40°	408.0	413.3	425.2	441.0	443.7
42.5°	390.8	397.4	408.0	426.5	433.1
45°	371.0	377.6	392.2	412.0	422.5
47.5°	352.5	359.1	375.0	398.8	412.0
50°	330.1	339.3	359.1	386.9	400.1
52.5°	309.0	316.9	343.3	373.7	389.5
55°	286.5	295.8	327.5	360.5	377.6
57.5°	266.7	274.6	310.3	347.3	367.1
60°	241.6	252.2	293.1	332.7	352.5
62.5°	215.2	231.1	276.0	316.9	338.0
65°	190.1	208.6	260.1	301.1	322.2
67.5°	167.7	187.5	240.3	283.9	303.7
70°	141.3	166.4	220.5	262.8	285.2
72.5°	117.5	145.2	198.1	240.3	260.1
75°	93.7	124.1	175.6	211.3	223.1
77.5°	72.6	101.7	150.5	161.1	162.4
80°	54.1	80.5	112.2	113.6	117.5
82.5°	37.0	56.8	72.6	79.2	80.5
85°	23.8	33.0	40.9	42.3	44.9
87.5°	10.6	11.9	14.5	13.2	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)