

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: P390965

Luminaire Tested: **24CZ2-110VHE-RDP-UNV-L940-CD2-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: P390965  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-110VHE-RDP-UNV-L940-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RDP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6376.0 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

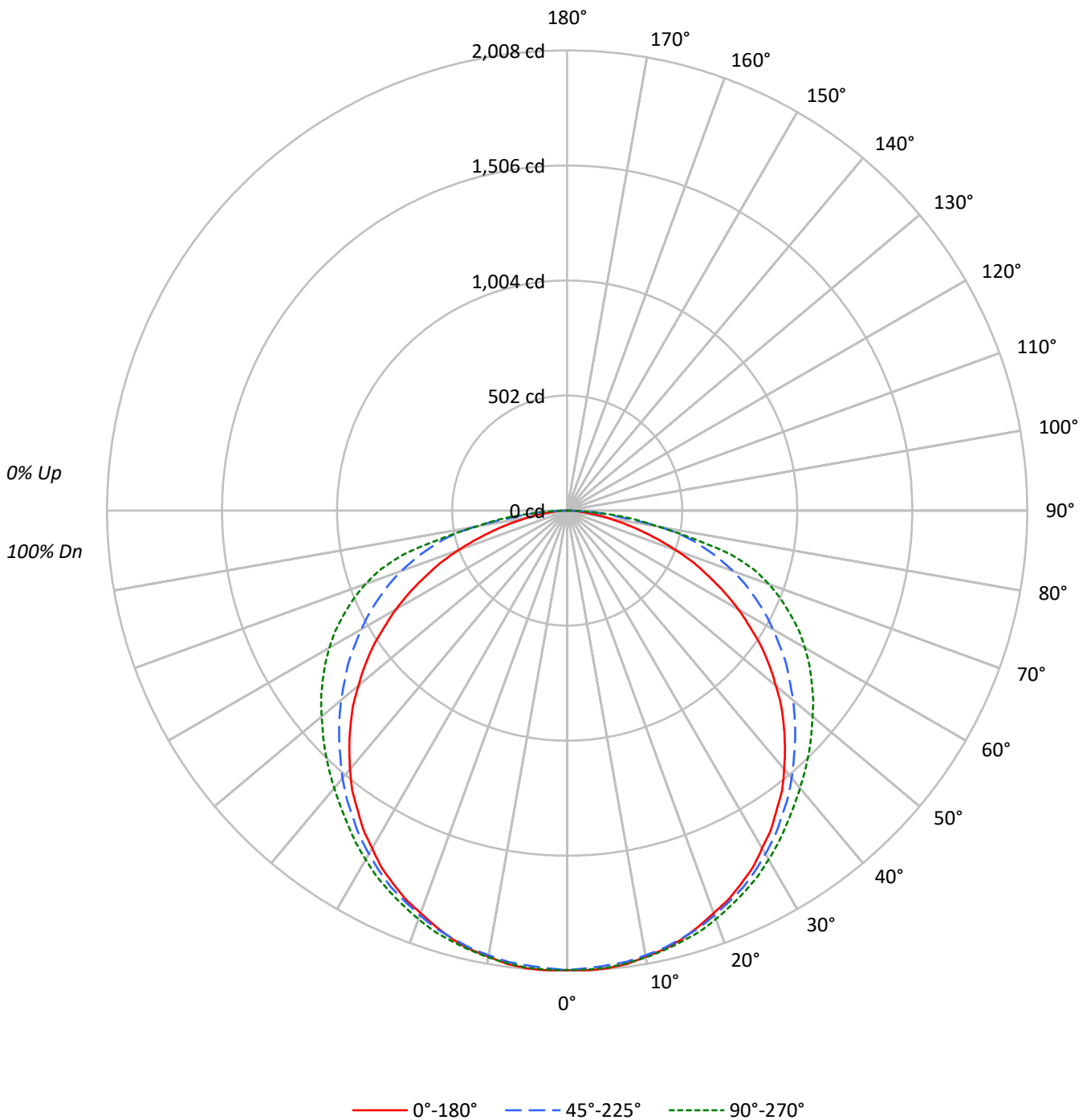
Input Watts (W): 77.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	89		92	89	87		88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27		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°	2698	2698	2698
5°	2708	2691	2704
10°	2701	2692	2705
15°	2696	2692	2709
20°	2676	2690	2717
25°	2667	2695	2723
30°	2644	2688	2732
35°	2618	2680	2743
40°	2589	2677	2777
45°	2546	2678	2840
50°	2489	2694	2926
55°	2426	2738	3057
60°	2323	2791	3225
65°	2175	2890	3423
70°	1978	3023	3683
75°	1677	3189	3847
80°	1323	3210	3112
85°	977	2441	2734



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.2	3.0
10°-20°	547.4	8.6
20°-30°	837.1	13.1
30°-40°	1023.3	16.0
40°-50°	1090.6	17.1
50°-60°	1042.8	16.4
60°-70°	883.4	13.9
70°-80°	593.7	9.3
80°-90°	167.5	2.6
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°	1574.7	24.7
0°-40°	2598.0	40.7
0°-60°	4731.4	74.2
0°-90°	6376.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6376.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2005	2005	2005	2005	2005	
5°	2005	2002	1992	2002	2002	191
15°	1936	1936	1932	1948	1945	546
25°	1796	1803	1815	1831	1834	828
35°	1594	1607	1632	1664	1670	999
45°	1338	1360	1407	1467	1493	1032
55°	1034	1072	1167	1259	1303	921
65°	683	753	908	1028	1075	678
75°	323	440	614	718	740	345
85°	63	130	158	171	177	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2005.1	2005.1	2005.1	2005.1	2005.1
2.5°	2008.2	2008.2	1998.7	2005.1	2005.1
5°	2005.1	2001.9	1992.4	2001.9	2001.9
7.5°	1995.6	1992.4	1986.1	1995.6	1992.4
10°	1976.6	1976.6	1970.3	1979.8	1979.8
12.5°	1960.8	1957.6	1954.5	1967.1	1964.0
15°	1935.5	1935.5	1932.3	1948.1	1945.0
17.5°	1903.9	1907.0	1910.2	1922.8	1926.0
20°	1869.1	1875.4	1878.6	1897.5	1897.5
22.5°	1837.5	1840.6	1846.9	1865.9	1865.9
25°	1796.3	1802.7	1815.3	1831.1	1834.3
27.5°	1755.2	1758.4	1774.2	1796.3	1799.5
30°	1701.5	1711.0	1729.9	1755.2	1758.4
32.5°	1654.0	1663.5	1685.7	1711.0	1717.3
35°	1593.9	1606.6	1631.9	1663.5	1669.8
37.5°	1540.2	1549.7	1581.3	1616.1	1625.6
40°	1473.8	1492.7	1524.4	1565.5	1581.3
42.5°	1407.3	1426.3	1464.3	1518.0	1537.0
45°	1337.8	1359.9	1407.3	1467.4	1492.7
47.5°	1268.2	1293.5	1347.3	1416.8	1445.3
50°	1189.1	1220.8	1287.2	1366.2	1397.9
52.5°	1113.2	1151.2	1223.9	1312.5	1353.6
55°	1034.2	1072.1	1167.0	1258.7	1303.0
57.5°	945.6	996.2	1100.6	1204.9	1252.4
60°	863.4	910.8	1037.3	1151.2	1198.6
62.5°	774.8	838.1	974.1	1094.2	1141.7
65°	683.1	752.7	907.7	1027.8	1075.3
67.5°	600.9	676.8	841.2	961.4	1008.9
70°	502.8	597.7	768.5	888.7	936.1
72.5°	411.1	515.5	692.6	809.6	853.9
75°	322.6	439.6	613.5	717.9	740.0
77.5°	240.4	363.7	531.3	575.6	559.8
80°	170.8	291.0	414.3	392.2	401.6
82.5°	110.7	221.4	256.2	291.0	300.4
85°	63.3	129.7	158.1	170.8	177.1
87.5°	28.5	47.4	63.3	63.3	60.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)