

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: P389840

Luminaire Tested: **24CZ2-60VHE-S-UNV-L950-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: P389840  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-S-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5768.6 lumens  
Efficiency: N/A  
Efficacy: 149.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

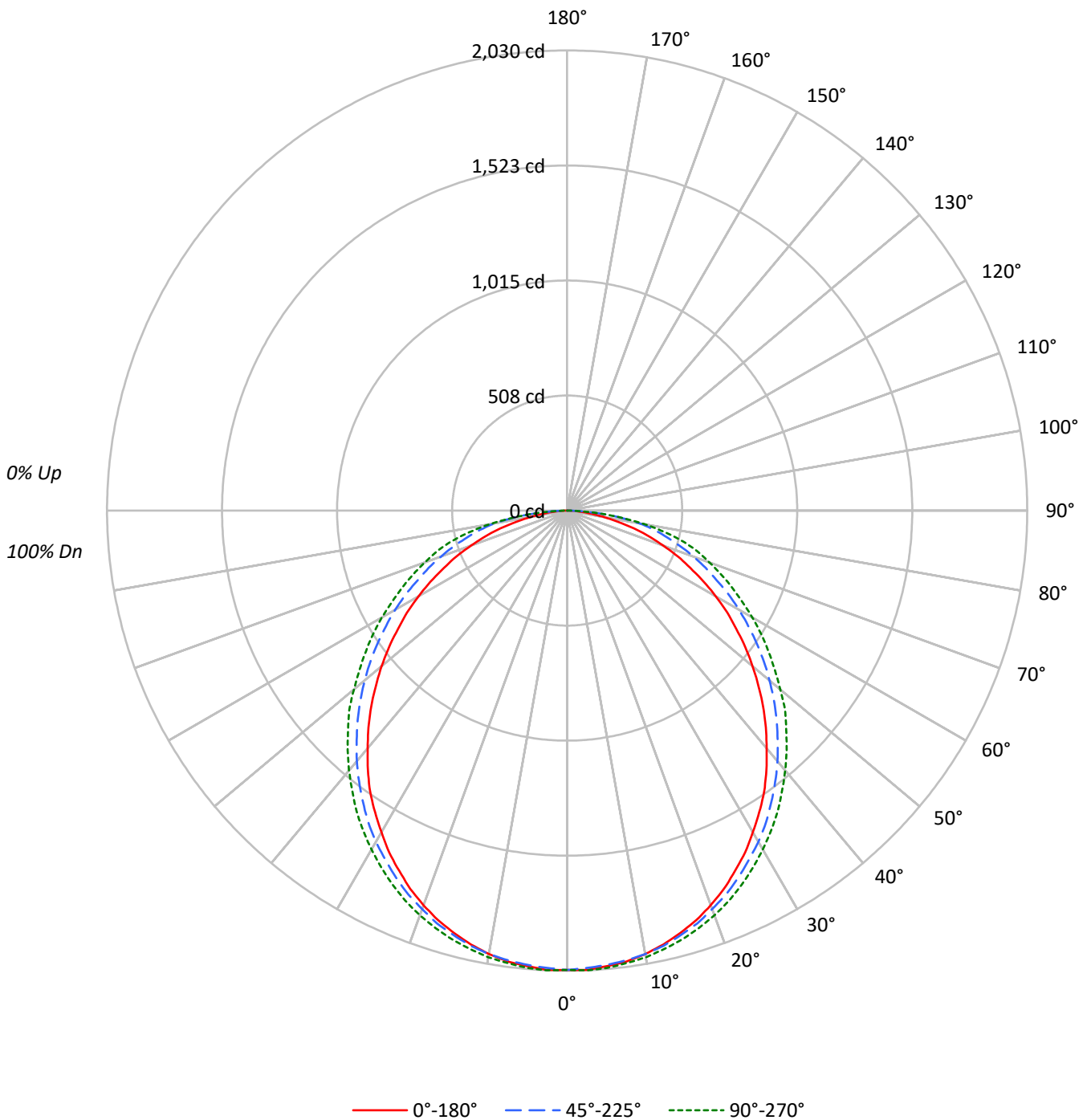
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69					69			
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42					42			
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

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

	0°	45°	90°
0°	2727	2727	2727
5°	2725	2717	2735
10°	2714	2714	2734
15°	2688	2700	2729
20°	2652	2679	2721
25°	2603	2652	2704
30°	2545	2622	2682
35°	2489	2579	2661
40°	2404	2536	2629
45°	2326	2486	2601
50°	2236	2439	2570
55°	2136	2394	2544
60°	2036	2357	2539
65°	1908	2316	2555
70°	1766	2328	2624
75°	1581	2372	2772
80°	1278	2513	2712
85°	962	2206	2150



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.9	3.3
10°-20°	548.2	9.5
20°-30°	824.1	14.3
30°-40°	981.6	17.0
40°-50°	1004.6	17.4
50°-60°	904.4	15.7
60°-70°	710.3	12.3
70°-80°	461.0	8.0
80°-90°	142.6	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°	1564.1	27.1
0°-40°	2545.7	44.1
0°-60°	4454.8	77.2
0°-90°	5768.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5768.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2026	2026	2026	2026	2026	
5°	2017	2021	2012	2023	2025	192
15°	1929	1935	1939	1955	1959	544
25°	1754	1768	1786	1816	1821	808
35°	1515	1534	1570	1609	1620	945
45°	1222	1252	1306	1356	1367	942
55°	911	951	1021	1074	1085	816
65°	599	645	727	788	803	596
75°	304	363	456	518	533	322
85°	62	115	143	139	139	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2026.5	2026.5	2026.5	2026.5	2026.5
2.5°	2028.4	2028.4	2019.2	2028.4	2030.2
5°	2017.4	2021.0	2011.9	2022.9	2024.7
7.5°	2006.4	2006.4	2000.9	2011.9	2013.7
10°	1986.2	1988.1	1986.2	1999.1	2000.9
12.5°	1960.6	1964.2	1966.1	1978.9	1980.7
15°	1929.4	1934.9	1938.6	1955.1	1958.8
17.5°	1894.6	1900.1	1909.3	1927.6	1931.3
20°	1852.5	1859.8	1870.8	1894.6	1900.1
22.5°	1806.7	1814.0	1832.3	1854.3	1863.5
25°	1753.5	1768.2	1786.5	1815.8	1821.3
27.5°	1700.4	1713.2	1737.0	1768.2	1775.5
30°	1638.1	1658.3	1687.6	1718.7	1726.0
32.5°	1577.6	1597.8	1632.6	1665.6	1674.7
35°	1515.3	1533.7	1570.3	1608.8	1619.8
37.5°	1443.9	1467.7	1508.0	1546.5	1557.5
40°	1368.7	1398.1	1443.9	1484.2	1497.0
42.5°	1297.3	1328.4	1374.2	1418.2	1432.9
45°	1222.2	1251.5	1306.4	1355.9	1366.9
47.5°	1145.2	1178.2	1236.8	1286.3	1304.6
50°	1068.2	1103.1	1165.4	1216.7	1227.7
52.5°	991.3	1027.9	1093.9	1148.9	1154.4
55°	910.7	951.0	1020.6	1073.7	1084.7
57.5°	837.4	872.2	947.3	1002.3	1015.1
60°	756.7	795.2	875.8	927.2	943.6
62.5°	679.8	720.1	804.4	855.7	870.4
65°	599.2	645.0	727.4	787.9	802.6
67.5°	529.5	573.5	661.5	720.1	734.8
70°	448.9	498.4	591.8	652.3	667.0
72.5°	379.3	430.6	524.0	582.7	604.7
75°	304.2	362.8	456.2	518.5	533.2
77.5°	230.9	298.7	393.9	441.6	441.6
80°	164.9	236.4	324.3	346.3	350.0
82.5°	108.1	177.7	240.0	238.2	238.2
85°	62.3	115.4	142.9	139.3	139.3
87.5°	23.8	47.6	51.3	51.3	49.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)