

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: P388904

Luminaire Tested: **24CZ2-60VHE-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: P388904  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

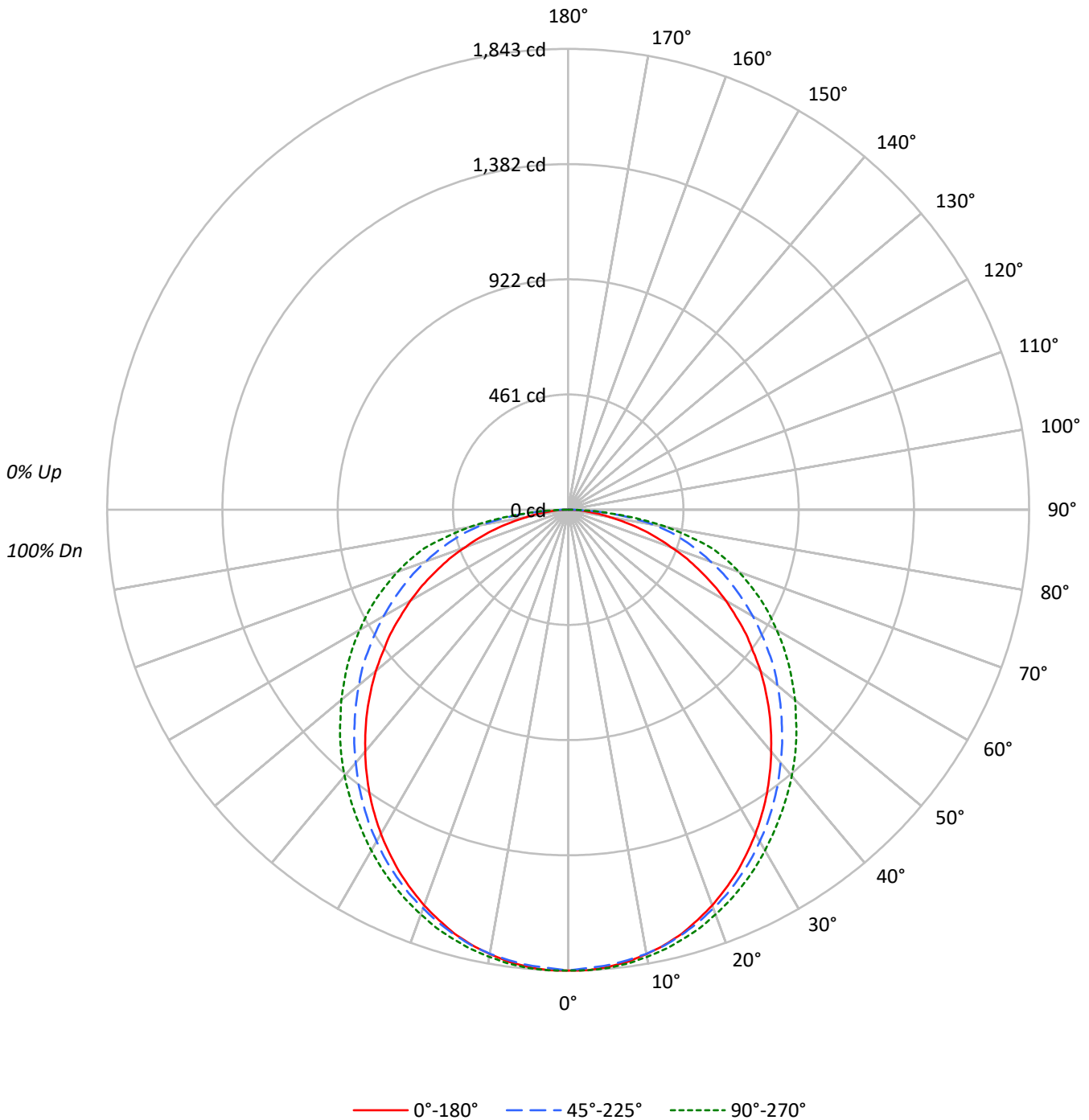
Lumens per Lamp: N/A  
Luminaire Lumens: 5490.1 lumens  
Efficiency: N/A  
Efficacy: 141.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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	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	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	2480	2480	2480
5°	2480	2470	2485
10°	2466	2463	2481
15°	2445	2450	2476
20°	2411	2429	2466
25°	2372	2407	2456
30°	2326	2380	2445
35°	2275	2350	2438
40°	2217	2320	2443
45°	2162	2298	2454
50°	2102	2286	2478
55°	2037	2282	2523
60°	1957	2293	2589
65°	1855	2328	2701
70°	1723	2386	2854
75°	1572	2505	3096
80°	1292	2697	3095
85°	990	2489	2658



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.3	3.2
10°-20°	497.7	9.1
20°-30°	749.0	13.6
30°-40°	897.5	16.3
40°-50°	935.3	17.0
50°-60°	870.2	15.9
60°-70°	716.7	13.1
70°-80°	488.1	8.9
80°-90°	161.1	2.9
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°	1421.0	25.9
0°-40°	2318.5	42.2
0°-60°	4124.1	75.1
0°-90°	5490.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5490.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1836	1836	1829	1838	1840	174
15°	1755	1757	1759	1776	1777	495
25°	1598	1605	1622	1649	1655	736
35°	1385	1402	1431	1470	1484	866
45°	1136	1160	1208	1268	1290	876
55°	868	898	973	1050	1076	774
65°	583	632	731	817	848	578
75°	302	370	482	568	596	319
85°	64	125	161	172	172	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1843.3	1843.3	1843.3	1843.3	1843.3
2.5°	1843.3	1843.3	1834.1	1843.3	1843.3
5°	1836.0	1836.0	1828.6	1837.8	1839.6
7.5°	1823.1	1825.0	1817.6	1828.6	1830.5
10°	1804.8	1806.6	1803.0	1814.0	1815.8
12.5°	1782.8	1784.6	1784.6	1797.5	1799.3
15°	1755.3	1757.2	1759.0	1775.5	1777.3
17.5°	1720.5	1726.0	1729.7	1749.8	1753.5
20°	1683.9	1689.4	1696.7	1718.7	1722.4
22.5°	1641.7	1649.1	1661.9	1685.7	1691.2
25°	1597.8	1605.1	1621.6	1649.1	1654.6
27.5°	1548.3	1559.3	1579.4	1608.7	1616.1
30°	1497.0	1508.0	1531.8	1562.9	1573.9
32.5°	1442.0	1456.7	1484.2	1519.0	1530.0
35°	1385.2	1401.7	1431.0	1469.5	1484.2
37.5°	1324.7	1343.1	1377.9	1420.0	1438.3
40°	1262.4	1284.4	1321.1	1370.6	1390.7
42.5°	1200.1	1220.3	1266.1	1319.2	1341.2
45°	1136.0	1159.8	1207.5	1267.9	1289.9
47.5°	1070.1	1093.9	1150.7	1214.8	1235.0
50°	1004.1	1027.9	1092.0	1159.8	1183.7
52.5°	932.6	963.8	1037.1	1104.9	1128.7
55°	868.5	897.8	972.9	1049.9	1075.6
57.5°	795.2	830.0	912.5	993.1	1020.6
60°	727.4	764.1	852.0	934.5	962.0
62.5°	657.8	698.1	791.5	875.8	907.0
65°	582.7	632.1	731.1	817.2	848.3
67.5°	514.9	566.2	670.6	758.6	786.1
70°	437.9	500.2	606.5	694.4	725.6
72.5°	372.0	434.3	546.0	632.1	663.3
75°	302.3	370.1	481.9	568.0	595.5
77.5°	232.7	307.8	419.6	485.6	494.7
80°	166.7	245.5	348.1	386.6	399.4
82.5°	117.3	188.7	256.5	282.2	289.5
85°	64.1	124.6	161.2	172.2	172.2
87.5°	27.5	53.1	64.1	66.0	67.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)