

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: P389003

Luminaire Tested: **24CZ2-65HE-SQR-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: P389003  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-65HE-SQR-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5738.5 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

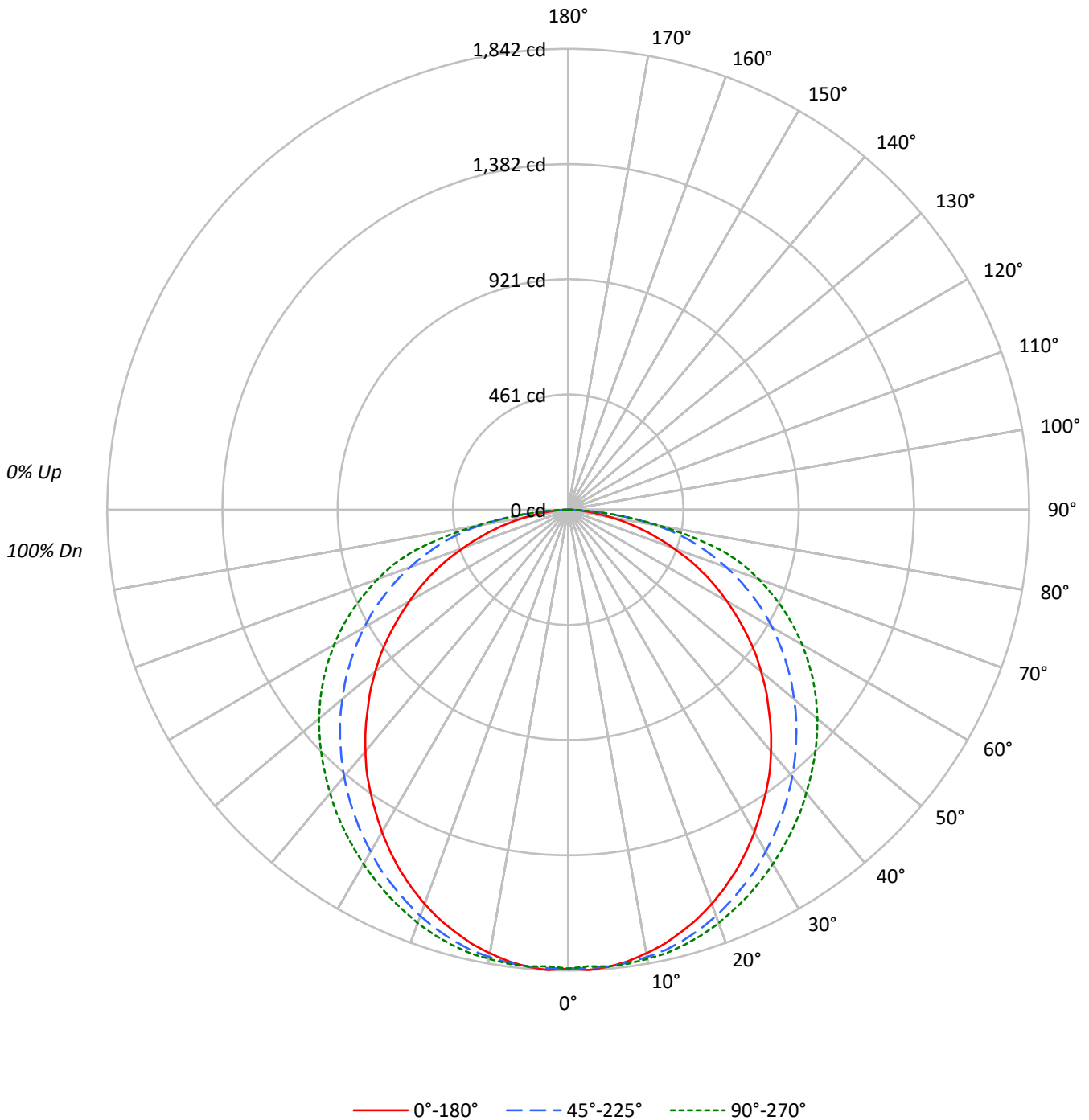
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20			20				20			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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82	82	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67	67	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56	56	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47	47	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41	41	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35	35	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31	31	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28	28	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25	25	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22	22	22

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

	0°	45°	90°
0°	2468	2468	2468
5°	2477	2475	2475
10°	2460	2480	2491
15°	2434	2481	2508
20°	2401	2475	2518
25°	2360	2462	2526
30°	2311	2452	2541
35°	2263	2446	2565
40°	2213	2446	2599
45°	2156	2452	2650
50°	2106	2467	2721
55°	2045	2494	2805
60°	1973	2534	2907
65°	1888	2582	3029
70°	1752	2646	3183
75°	1586	2739	3330
80°	1336	2746	2863
85°	1024	2076	2076



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.1	3.0
10°-20°	501.0	8.7
20°-30°	760.9	13.3
30°-40°	925.5	16.1
40°-50°	985.4	17.2
50°-60°	938.6	16.4
60°-70°	784.9	13.7
70°-80°	523.3	9.1
80°-90°	144.8	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°	1436.0	25.0
0°-40°	2361.5	41.2
0°-60°	4285.5	74.7
0°-90°	5738.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5738.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1834	1834	1834	1834	1834	
5°	1834	1823	1832	1832	1832	174
15°	1747	1751	1781	1794	1800	493
25°	1590	1611	1658	1686	1702	732
35°	1378	1417	1489	1539	1561	862
45°	1133	1194	1289	1361	1393	876
55°	872	948	1063	1156	1196	779
65°	593	680	811	912	951	586
75°	305	402	527	616	640	323
85°	66	123	134	133	134	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1834.3	1834.3	1834.3	1834.3	1834.3
2.5°	1841.9	1828.6	1834.3	1834.3	1826.7
5°	1834.3	1822.9	1832.4	1832.4	1832.4
7.5°	1821.0	1811.6	1826.7	1830.5	1830.5
10°	1800.2	1796.4	1815.4	1821.0	1822.9
12.5°	1777.5	1775.6	1802.1	1809.7	1815.4
15°	1747.1	1750.9	1781.2	1794.5	1800.2
17.5°	1714.9	1722.5	1756.6	1775.6	1781.2
20°	1677.0	1688.4	1728.2	1747.1	1758.5
22.5°	1635.3	1652.4	1694.1	1716.8	1730.1
25°	1589.9	1610.7	1658.1	1686.5	1701.7
27.5°	1540.6	1567.1	1622.1	1654.3	1669.4
30°	1487.5	1517.8	1578.5	1616.4	1635.3
32.5°	1432.6	1468.6	1534.9	1576.6	1599.3
35°	1377.6	1417.4	1489.4	1538.7	1561.4
37.5°	1322.7	1362.5	1442.1	1495.1	1523.5
40°	1260.1	1307.5	1392.8	1451.5	1479.9
42.5°	1199.5	1250.7	1341.6	1406.0	1436.4
45°	1133.2	1193.8	1288.6	1360.6	1392.8
47.5°	1072.5	1133.2	1235.5	1311.3	1347.3
50°	1006.2	1070.6	1178.7	1262.0	1299.9
52.5°	941.8	1008.1	1121.8	1210.9	1248.8
55°	871.7	947.5	1063.1	1155.9	1195.7
57.5°	801.6	883.0	1002.4	1099.1	1138.9
60°	733.3	816.7	941.8	1038.4	1080.1
62.5°	665.1	748.5	879.3	977.8	1017.6
65°	593.1	680.3	811.0	911.5	951.3
67.5°	521.1	612.1	742.8	843.2	881.1
70°	445.3	542.0	672.7	771.2	809.1
72.5°	375.2	471.8	600.7	697.3	733.3
75°	305.1	401.7	526.8	615.9	640.5
77.5°	236.9	333.5	445.3	504.1	509.7
80°	172.4	263.4	354.4	371.4	369.5
82.5°	115.6	197.1	244.4	246.3	252.0
85°	66.3	123.2	134.5	132.6	134.5
87.5°	26.5	43.6	37.9	28.4	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)