

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: P391568

Luminaire Tested: **24CZ2-65VHE-HRP-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: P391568  
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: 24CZ2-65VHE-HRP-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5052.7 lumens  
Efficiency: N/A  
Efficacy: 119.7 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

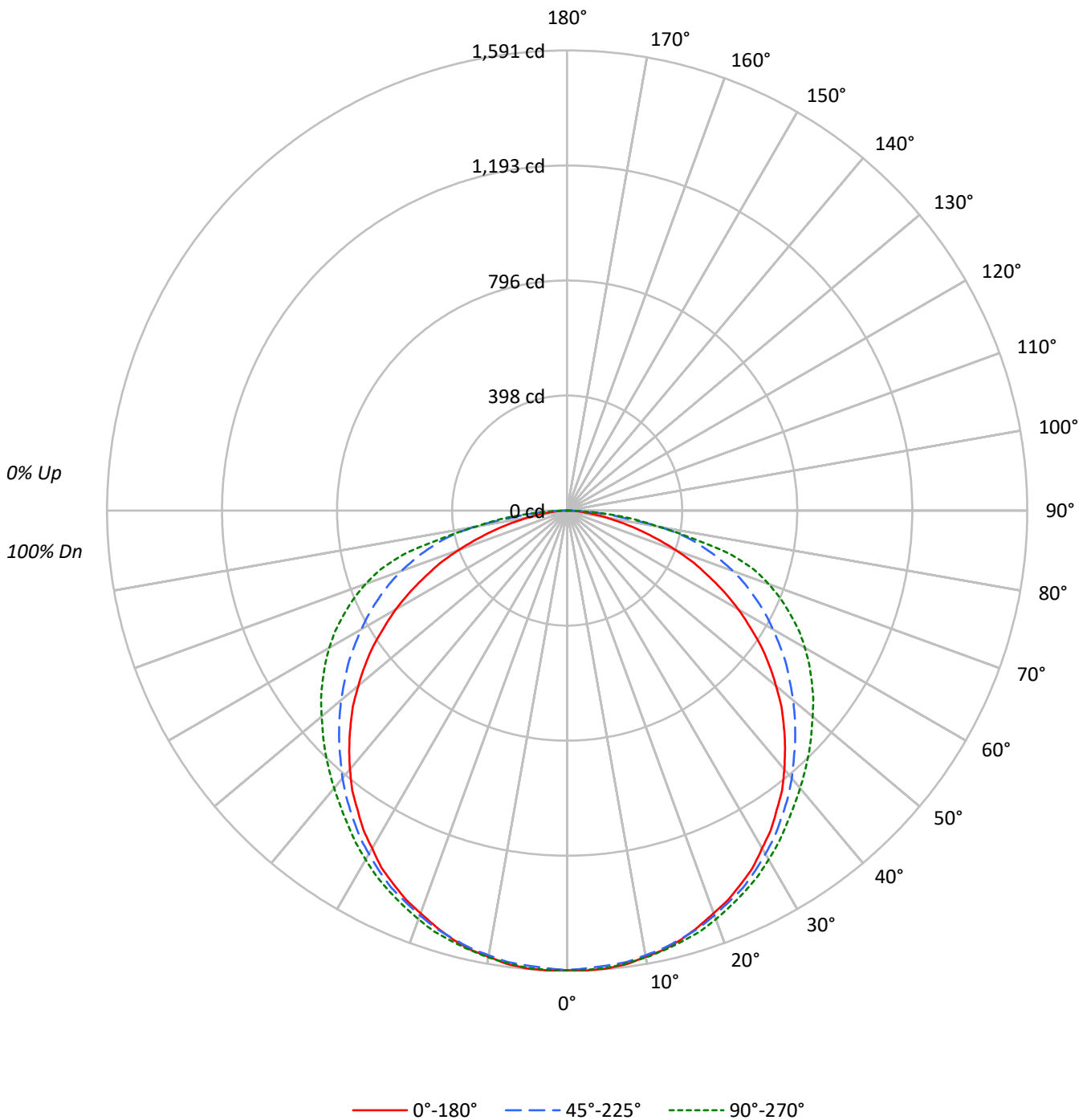
Input Watts (W): 42.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2138	2138	2138
5°	2146	2133	2143
10°	2140	2133	2144
15°	2137	2133	2147
20°	2121	2132	2153
25°	2113	2136	2158
30°	2095	2130	2165
35°	2075	2124	2174
40°	2051	2122	2201
45°	2017	2122	2251
50°	1972	2135	2319
55°	1922	2169	2422
60°	1841	2212	2556
65°	1723	2290	2713
70°	1568	2396	2918
75°	1329	2528	3049
80°	1048	2544	2466
85°	773	1934	2166



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.7	3.0
10°-20°	433.8	8.6
20°-30°	663.3	13.1
30°-40°	810.9	16.0
40°-50°	864.3	17.1
50°-60°	826.4	16.4
60°-70°	700.0	13.9
70°-80°	470.5	9.3
80°-90°	132.7	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°	1247.9	24.7
0°-40°	2058.8	40.7
0°-60°	3749.5	74.2
0°-90°	5052.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5052.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1589	1589	1589	1589	1589	
5°	1589	1586	1579	1586	1586	151
15°	1534	1534	1531	1544	1541	432
25°	1424	1428	1439	1451	1454	656
35°	1263	1273	1293	1318	1323	791
45°	1060	1078	1115	1163	1183	818
55°	820	850	925	998	1033	730
65°	541	596	719	814	852	537
75°	256	348	486	569	586	274
85°	50	103	125	135	140	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1588.9	1588.9	1588.9	1588.9	1588.9
2.5°	1591.4	1591.4	1583.9	1588.9	1588.9
5°	1588.9	1586.4	1578.9	1586.4	1586.4
7.5°	1581.4	1578.9	1573.9	1581.4	1578.9
10°	1566.4	1566.4	1561.4	1568.9	1568.9
12.5°	1553.8	1551.3	1548.8	1558.9	1556.3
15°	1533.8	1533.8	1531.3	1543.8	1541.3
17.5°	1508.7	1511.2	1513.7	1523.8	1526.3
20°	1481.2	1486.2	1488.7	1503.7	1503.7
22.5°	1456.1	1458.6	1463.6	1478.7	1478.7
25°	1423.5	1428.5	1438.6	1451.1	1453.6
27.5°	1390.9	1393.4	1406.0	1423.5	1426.0
30°	1348.3	1355.9	1370.9	1390.9	1393.4
32.5°	1310.7	1318.3	1335.8	1355.9	1360.9
35°	1263.1	1273.1	1293.2	1318.3	1323.3
37.5°	1220.5	1228.0	1253.1	1280.7	1288.2
40°	1167.9	1182.9	1208.0	1240.6	1253.1
42.5°	1115.3	1130.3	1160.4	1203.0	1218.0
45°	1060.1	1077.7	1115.3	1162.9	1182.9
47.5°	1005.0	1025.0	1067.6	1122.8	1145.3
50°	942.3	967.4	1020.0	1082.7	1107.7
52.5°	882.2	912.3	969.9	1040.1	1072.7
55°	819.5	849.6	924.8	997.5	1032.6
57.5°	749.4	789.5	872.2	954.9	992.5
60°	684.2	721.8	822.0	912.3	949.8
62.5°	614.0	664.1	771.9	867.1	904.7
65°	541.3	596.5	719.3	814.5	852.1
67.5°	476.2	536.3	666.6	761.9	799.5
70°	398.5	473.7	609.0	704.2	741.8
72.5°	325.8	408.5	548.9	641.6	676.7
75°	255.6	348.4	486.2	568.9	586.5
77.5°	190.5	288.2	421.0	456.1	443.6
80°	135.3	230.6	328.3	310.8	318.3
82.5°	87.7	175.4	203.0	230.6	238.1
85°	50.1	102.8	125.3	135.3	140.3
87.5°	22.6	37.6	50.1	50.1	47.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)