

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: P391760

Luminaire Tested: **24CZ2-85VHE-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: P391760  
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: 24CZ2-85VHE-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: 6618.9 lumens  
Efficiency: N/A  
Efficacy: 114.3 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

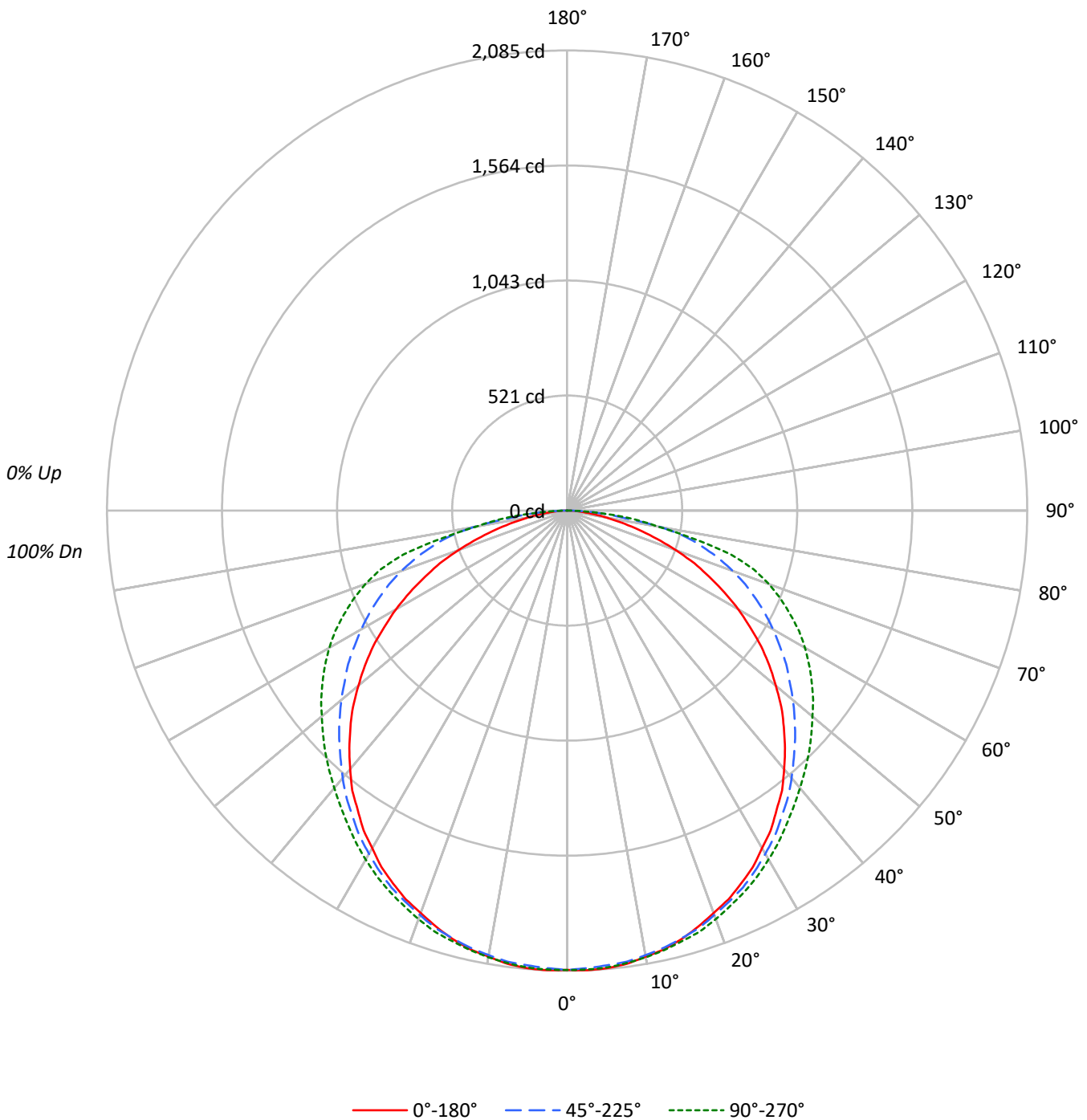
Input Watts (W): 57.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P391760

CATALOG NUMBER: 24CZ2-85VHE-HRP-UNV-L950-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P391760

CATALOG NUMBER: 24CZ2-85VHE-HRP-UNV-L950-CD1-U

**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	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°	2801	2801	2801
5°	2811	2794	2807
10°	2803	2794	2808
15°	2799	2794	2813
20°	2778	2792	2820
25°	2768	2798	2827
30°	2744	2790	2836
35°	2718	2783	2847
40°	2687	2779	2883
45°	2642	2780	2949
50°	2584	2797	3037
55°	2518	2842	3173
60°	2412	2898	3348
65°	2258	3000	3554
70°	2054	3139	3823
75°	1741	3311	3994
80°	1374	3333	3230
85°	1014	2535	2839



TEST NUMBER: P391760

CATALOG NUMBER: 24CZ2-85VHE-HRP-UNV-L950-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.4	3.0
10°-20°	568.2	8.6
20°-30°	869.0	13.1
30°-40°	1062.3	16.0
40°-50°	1132.2	17.1
50°-60°	1082.5	16.4
60°-70°	917.0	13.9
70°-80°	616.3	9.3
80°-90°	173.9	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°	1634.7	24.7
0°-40°	2697.0	40.7
0°-60°	4911.7	74.2
0°-90°	6618.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6618.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2082	2082	2082	2082	2082	
5°	2082	2078	2068	2078	2078	198
15°	2009	2009	2006	2022	2019	567
25°	1865	1871	1884	1901	1904	859
35°	1655	1668	1694	1727	1734	1037
45°	1389	1412	1461	1523	1550	1071
55°	1074	1113	1211	1307	1353	956
65°	709	781	942	1067	1116	704
75°	335	456	637	745	768	359
85°	66	135	164	177	184	81
90°	0	0	0	0	0	



TEST NUMBER: P391760

CATALOG NUMBER: 24CZ2-85VHE-HRP-UNV-L950-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2081.5	2081.5	2081.5	2081.5	2081.5
2.5°	2084.7	2084.7	2074.9	2081.5	2081.5
5°	2081.5	2078.2	2068.3	2078.2	2078.2
7.5°	2071.6	2068.3	2061.8	2071.6	2068.3
10°	2051.9	2051.9	2045.3	2055.2	2055.2
12.5°	2035.5	2032.2	2028.9	2042.1	2038.8
15°	2009.2	2009.2	2005.9	2022.4	2019.1
17.5°	1976.4	1979.7	1983.0	1996.1	1999.4
20°	1940.3	1946.8	1950.1	1969.8	1969.8
22.5°	1907.5	1910.7	1917.3	1937.0	1937.0
25°	1864.8	1871.3	1884.5	1900.9	1904.2
27.5°	1822.1	1825.4	1841.8	1864.8	1868.1
30°	1766.3	1776.1	1795.8	1822.1	1825.4
32.5°	1717.0	1726.9	1749.9	1776.1	1782.7
35°	1654.7	1667.8	1694.1	1726.9	1733.5
37.5°	1598.8	1608.7	1641.5	1677.6	1687.5
40°	1529.9	1549.6	1582.4	1625.1	1641.5
42.5°	1461.0	1480.7	1520.1	1575.9	1595.6
45°	1388.7	1411.7	1461.0	1523.3	1549.6
47.5°	1316.5	1342.8	1398.6	1470.8	1500.4
50°	1234.4	1267.3	1336.2	1418.3	1451.1
52.5°	1155.6	1195.0	1270.5	1362.5	1405.1
55°	1073.6	1113.0	1211.4	1306.7	1352.6
57.5°	981.6	1034.2	1142.5	1250.8	1300.1
60°	896.3	945.5	1076.8	1195.0	1244.3
62.5°	804.3	870.0	1011.2	1135.9	1185.2
65°	709.1	781.4	942.2	1067.0	1116.2
67.5°	623.8	702.6	873.3	998.0	1047.3
70°	522.0	620.5	797.8	922.5	971.8
72.5°	426.8	535.1	719.0	840.5	886.4
75°	334.9	456.3	636.9	745.3	768.2
77.5°	249.5	377.6	551.6	597.5	581.1
80°	177.3	302.0	430.1	407.1	416.9
82.5°	114.9	229.8	265.9	302.0	311.9
85°	65.7	134.6	164.2	177.3	183.9
87.5°	29.5	49.2	65.7	65.7	62.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)