

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: P389140

Luminaire Tested: **24CZ2-80VHE-SQR-UNV-L935-CD1-SWPD1-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: P389140  
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: 24CZ2-80VHE-SQR-UNV-L935-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6517.9 lumens  
Efficiency: N/A  
Efficacy: 121.2 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

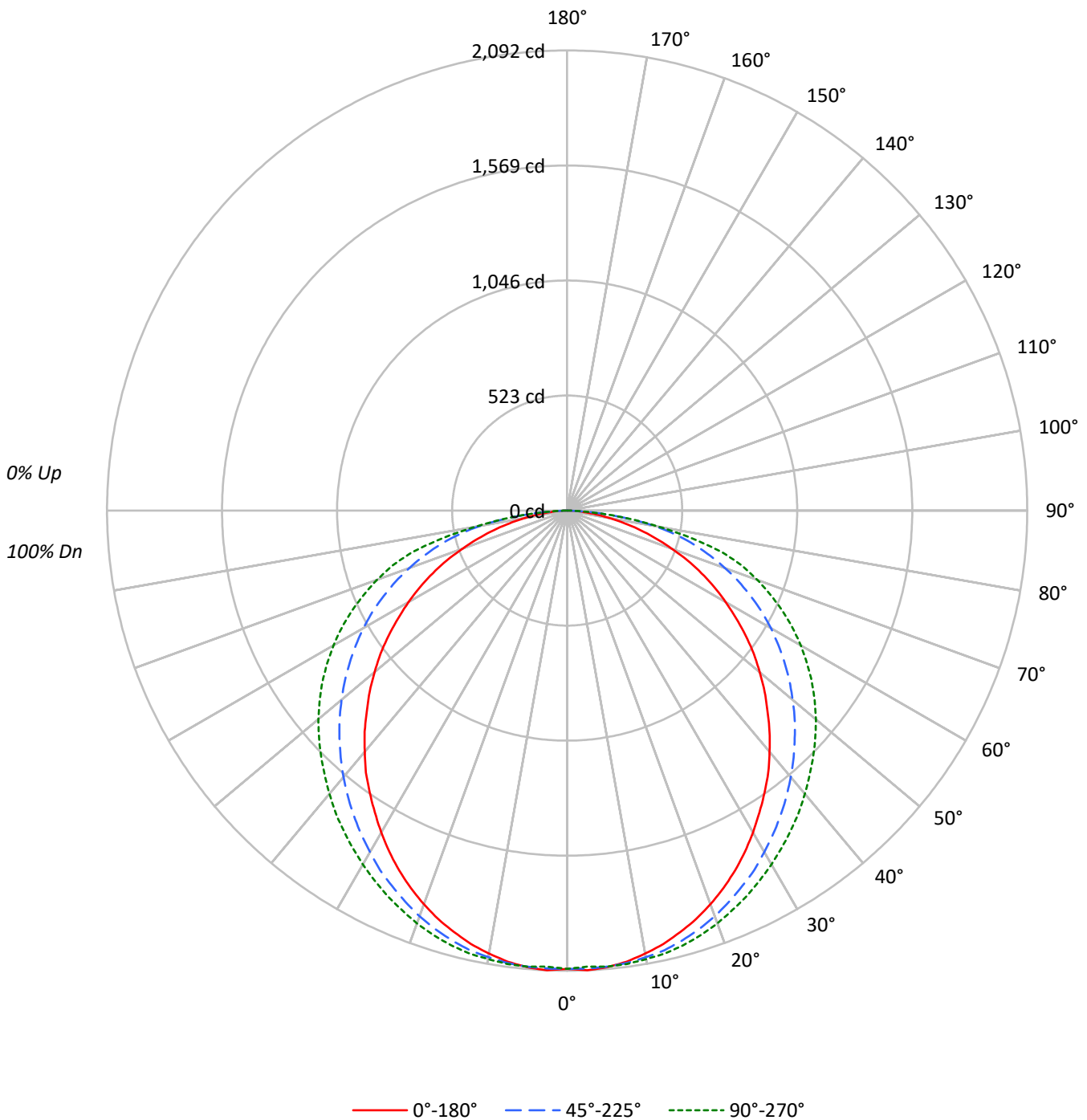
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

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

	0°	45°	90°
0°	2803	2803	2803
5°	2814	2811	2811
10°	2794	2817	2829
15°	2764	2818	2848
20°	2727	2811	2860
25°	2681	2796	2869
30°	2625	2786	2886
35°	2570	2779	2913
40°	2514	2778	2953
45°	2449	2785	3010
50°	2392	2802	3091
55°	2323	2832	3186
60°	2241	2879	3301
65°	2145	2933	3440
70°	1990	3006	3615
75°	1801	3110	3782
80°	1518	3119	3252
85°	1162	2359	2359



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.8	3.0
10°-20°	569.0	8.7
20°-30°	864.3	13.3
30°-40°	1051.3	16.1
40°-50°	1119.3	17.2
50°-60°	1066.0	16.4
60°-70°	891.5	13.7
70°-80°	594.4	9.1
80°-90°	164.5	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°	1631.0	25.0
0°-40°	2682.3	41.2
0°-60°	4867.6	74.7
0°-90°	6517.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6517.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2083	2083	2083	2083	2083	
5°	2083	2070	2081	2081	2081	198
15°	1984	1989	2023	2038	2045	560
25°	1806	1830	1883	1916	1933	831
35°	1565	1610	1692	1748	1774	979
45°	1287	1356	1464	1545	1582	995
55°	990	1076	1207	1313	1358	885
65°	674	773	921	1035	1080	666
75°	346	456	598	700	728	367
85°	75	140	153	151	153	91
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2083.4	2083.4	2083.4	2083.4	2083.4
2.5°	2092.0	2077.0	2083.4	2083.4	2074.8
5°	2083.4	2070.5	2081.3	2081.3	2081.3
7.5°	2068.4	2057.6	2074.8	2079.1	2079.1
10°	2044.7	2040.4	2061.9	2068.4	2070.5
12.5°	2018.9	2016.7	2046.8	2055.5	2061.9
15°	1984.4	1988.7	2023.2	2038.2	2044.7
17.5°	1947.8	1956.5	1995.2	2016.7	2023.2
20°	1904.8	1917.7	1962.9	1984.4	1997.3
22.5°	1857.4	1876.8	1924.2	1950.0	1965.1
25°	1805.8	1829.5	1883.3	1915.6	1932.8
27.5°	1749.8	1780.0	1842.4	1879.0	1896.2
30°	1689.6	1724.0	1792.9	1835.9	1857.4
32.5°	1627.1	1668.0	1743.4	1790.7	1816.6
35°	1564.7	1609.9	1691.7	1747.7	1773.5
37.5°	1502.3	1547.5	1637.9	1698.2	1730.5
40°	1431.3	1485.1	1581.9	1648.7	1681.0
42.5°	1362.4	1420.5	1523.8	1597.0	1631.5
45°	1287.1	1356.0	1463.6	1545.4	1581.9
47.5°	1218.2	1287.1	1403.3	1489.4	1530.3
50°	1142.9	1216.1	1338.7	1433.4	1476.5
52.5°	1069.7	1145.0	1274.2	1375.3	1418.4
55°	990.1	1076.2	1207.4	1312.9	1358.1
57.5°	910.4	1003.0	1138.6	1248.3	1293.5
60°	832.9	927.6	1069.7	1179.5	1226.8
62.5°	755.5	850.2	998.7	1110.6	1155.8
65°	673.7	772.7	921.2	1035.3	1080.5
67.5°	591.9	695.2	843.7	957.8	1000.8
70°	505.8	615.6	764.1	876.0	919.0
72.5°	426.2	535.9	682.3	792.1	832.9
75°	346.5	456.3	598.3	699.5	727.5
77.5°	269.0	378.8	505.8	572.5	579.0
80°	195.9	299.2	402.5	421.9	419.7
82.5°	131.3	223.8	277.6	279.8	286.3
85°	75.3	139.9	152.8	150.7	152.8
87.5°	30.1	49.5	43.0	32.3	32.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)