

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: P389138

Luminaire Tested: **24CZ2-80VHE-SQR-UNV-L930-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: P389138  
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-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6440.5 lumens  
Efficiency: N/A  
Efficacy: 119.7 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

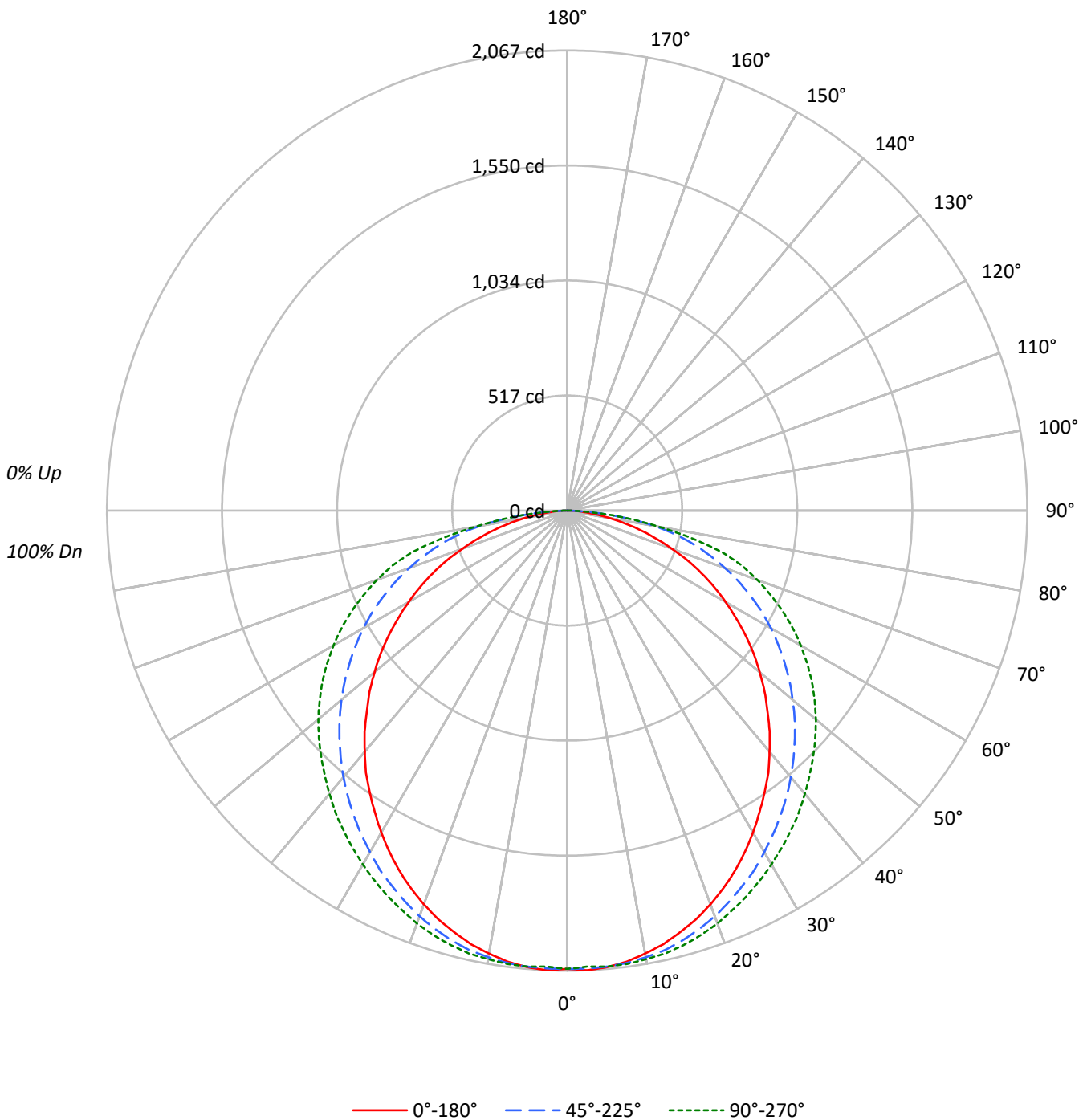
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				20			
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°	2770	2770	2770
5°	2781	2778	2778
10°	2760	2784	2795
15°	2731	2785	2814
20°	2695	2777	2826
25°	2649	2763	2835
30°	2594	2752	2852
35°	2540	2746	2878
40°	2484	2746	2917
45°	2420	2752	2974
50°	2364	2769	3054
55°	2295	2799	3148
60°	2215	2844	3262
65°	2119	2898	3399
70°	1966	2970	3572
75°	1780	3073	3737
80°	1499	3082	3213
85°	1149	2331	2331



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.4	3.0
10°-20°	562.2	8.7
20°-30°	854.0	13.3
30°-40°	1038.8	16.1
40°-50°	1106.0	17.2
50°-60°	1053.4	16.4
60°-70°	880.9	13.7
70°-80°	587.3	9.1
80°-90°	162.5	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°	1611.6	25.0
0°-40°	2650.4	41.2
0°-60°	4809.7	74.7
0°-90°	6440.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6440.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2059	2059	2059	2059	2059	
5°	2059	2046	2057	2057	2057	195
15°	1961	1965	1999	2014	2020	553
25°	1784	1808	1861	1893	1910	822
35°	1546	1591	1672	1727	1752	968
45°	1272	1340	1446	1527	1563	983
55°	978	1063	1193	1297	1342	875
65°	666	764	910	1023	1068	658
75°	342	451	591	691	719	363
85°	74	138	151	149	151	90
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2058.7	2058.7	2058.7	2058.7	2058.7
2.5°	2067.2	2052.3	2058.7	2058.7	2050.2
5°	2058.7	2045.9	2056.6	2056.6	2056.6
7.5°	2043.8	2033.2	2050.2	2054.4	2054.4
10°	2020.4	2016.2	2037.4	2043.8	2045.9
12.5°	1994.9	1992.8	2022.5	2031.0	2037.4
15°	1960.9	1965.1	1999.1	2014.0	2020.4
17.5°	1924.7	1933.2	1971.5	1992.8	1999.1
20°	1882.2	1894.9	1939.6	1960.9	1973.6
22.5°	1835.4	1854.5	1901.3	1926.8	1941.7
25°	1784.3	1807.7	1860.9	1892.8	1909.8
27.5°	1729.1	1758.8	1820.5	1856.7	1873.7
30°	1669.5	1703.5	1771.6	1814.1	1835.4
32.5°	1607.8	1648.2	1722.7	1769.5	1795.0
35°	1546.1	1590.8	1671.6	1726.9	1752.4
37.5°	1484.5	1529.1	1618.5	1678.0	1709.9
40°	1414.3	1467.5	1563.2	1629.1	1661.0
42.5°	1346.2	1403.7	1505.7	1578.1	1612.1
45°	1271.8	1339.9	1446.2	1527.0	1563.2
47.5°	1203.7	1271.8	1386.6	1471.7	1512.1
50°	1129.3	1201.6	1322.8	1416.4	1459.0
52.5°	1057.0	1131.4	1259.0	1359.0	1401.5
55°	978.3	1063.4	1193.1	1297.3	1342.0
57.5°	899.6	991.1	1125.1	1233.5	1278.2
60°	823.1	916.6	1057.0	1165.5	1212.2
62.5°	746.5	840.1	986.8	1097.4	1142.1
65°	665.7	763.5	910.3	1023.0	1067.6
67.5°	584.9	686.9	833.7	946.4	988.9
70°	499.8	608.3	755.0	865.6	908.1
72.5°	421.1	529.6	674.2	782.6	823.1
75°	342.4	450.9	591.2	691.2	718.8
77.5°	265.8	374.3	499.8	565.7	572.1
80°	193.5	295.6	397.7	416.8	414.7
82.5°	129.7	221.2	274.4	276.5	282.9
85°	74.4	138.2	151.0	148.9	151.0
87.5°	29.8	48.9	42.5	31.9	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)