

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: P389186

Luminaire Tested: **24CZ2-90VHE-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: P389186  
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: 24CZ2-90VHE-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: 7173.5 lumens  
Efficiency: N/A  
Efficacy: 116.1 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

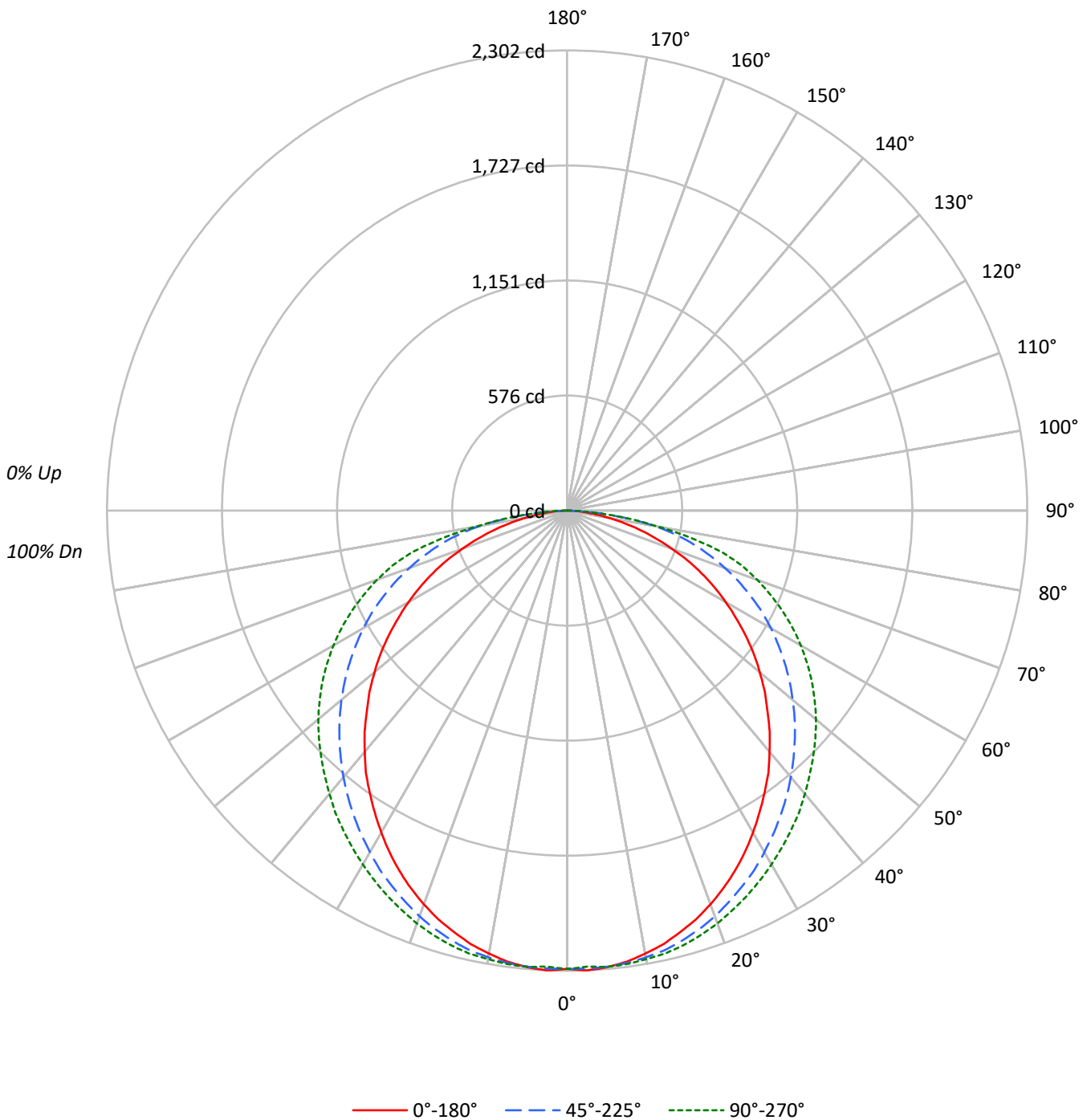
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3085	3085	3085
5°	3097	3094	3094
10°	3075	3100	3113
15°	3042	3102	3135
20°	3002	3093	3147
25°	2950	3077	3158
30°	2889	3066	3176
35°	2829	3058	3206
40°	2767	3058	3249
45°	2695	3065	3313
50°	2633	3084	3401
55°	2556	3117	3506
60°	2467	3168	3633
65°	2360	3228	3786
70°	2190	3308	3979
75°	1983	3423	4162
80°	1671	3433	3579
85°	1280	2597	2597



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.7	3.0
10°-20°	626.2	8.7
20°-30°	951.2	13.3
30°-40°	1157.0	16.1
40°-50°	1231.8	17.2
50°-60°	1173.3	16.4
60°-70°	981.2	13.7
70°-80°	654.2	9.1
80°-90°	181.0	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°	1795.1	25.0
0°-40°	2952.1	41.2
0°-60°	5357.2	74.7
0°-90°	7173.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7173.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2293	2293	2293	2293	2293	
5°	2293	2279	2291	2291	2291	218
15°	2184	2189	2227	2243	2250	616
25°	1987	2014	2073	2108	2127	915
35°	1722	1772	1862	1924	1952	1078
45°	1416	1492	1611	1701	1741	1095
55°	1090	1184	1329	1445	1495	974
65°	741	850	1014	1139	1189	732
75°	381	502	658	770	801	404
85°	83	154	168	166	168	100
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2293.0	2293.0	2293.0	2293.0	2293.0
2.5°	2302.5	2285.9	2293.0	2293.0	2283.5
5°	2293.0	2278.8	2290.6	2290.6	2290.6
7.5°	2276.4	2264.6	2283.5	2288.3	2288.3
10°	2250.4	2245.6	2269.3	2276.4	2278.8
12.5°	2221.9	2219.6	2252.7	2262.2	2269.3
15°	2184.0	2188.8	2226.7	2243.3	2250.4
17.5°	2143.8	2153.2	2195.9	2219.6	2226.7
20°	2096.4	2110.6	2160.3	2184.0	2198.2
22.5°	2044.3	2065.6	2117.7	2146.1	2162.7
25°	1987.4	2013.5	2072.7	2108.2	2127.2
27.5°	1925.8	1959.0	2027.7	2068.0	2086.9
30°	1859.5	1897.4	1973.2	2020.6	2044.3
32.5°	1790.8	1835.8	1918.7	1970.8	1999.3
35°	1722.1	1771.9	1861.9	1923.5	1951.9
37.5°	1653.4	1703.2	1802.7	1869.0	1904.5
40°	1575.3	1634.5	1741.1	1814.5	1850.0
42.5°	1499.5	1563.4	1677.1	1757.7	1795.6
45°	1416.5	1492.3	1610.8	1700.8	1741.1
47.5°	1340.7	1416.5	1544.5	1639.2	1684.2
50°	1257.8	1338.4	1473.4	1577.6	1625.0
52.5°	1177.3	1260.2	1402.3	1513.7	1561.0
55°	1089.6	1184.4	1328.9	1445.0	1494.7
57.5°	1002.0	1103.9	1253.1	1373.9	1423.6
60°	916.7	1021.0	1177.3	1298.1	1350.2
62.5°	831.4	935.7	1099.1	1222.3	1272.0
65°	741.4	850.4	1013.8	1139.4	1189.1
67.5°	651.4	765.1	928.6	1054.1	1101.5
70°	556.7	677.5	840.9	964.1	1011.5
72.5°	469.0	589.8	750.9	871.7	916.7
75°	381.4	502.2	658.5	769.9	800.7
77.5°	296.1	416.9	556.7	630.1	637.2
80°	215.6	329.3	443.0	464.3	461.9
82.5°	144.5	246.4	305.6	307.9	315.1
85°	82.9	154.0	168.2	165.8	168.2
87.5°	33.2	54.5	47.4	35.5	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)