

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: P389192

Luminaire Tested: **24CZ2-90VHE-SQR-UNV-L940-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: P389192  
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-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7426.9 lumens  
Efficiency: N/A  
Efficacy: 120.2 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

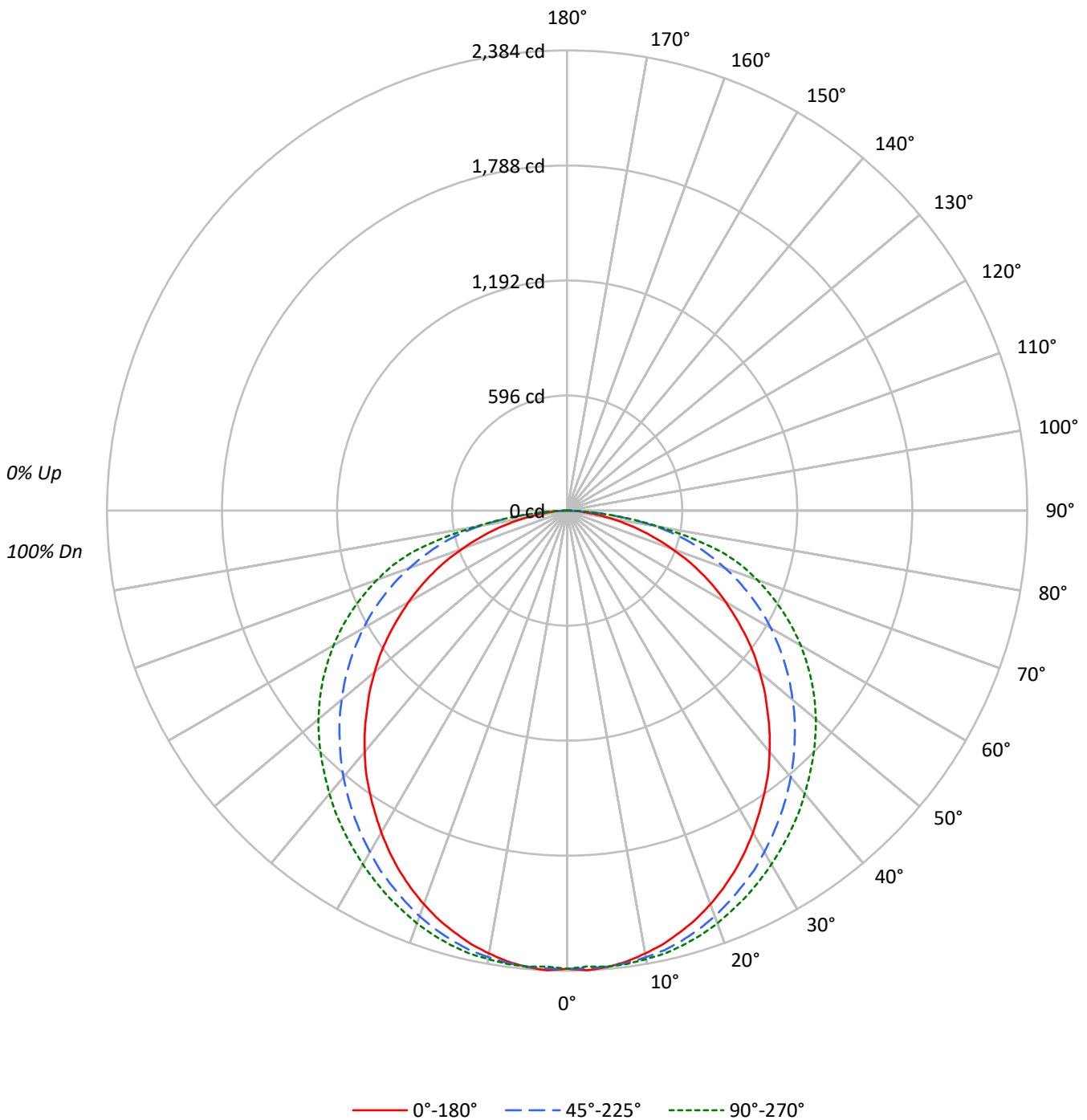
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3194	3194	3194
5°	3206	3203	3203
10°	3183	3210	3223
15°	3150	3211	3245
20°	3108	3203	3259
25°	3055	3186	3269
30°	2991	3174	3288
35°	2929	3166	3319
40°	2865	3166	3364
45°	2791	3173	3430
50°	2726	3193	3522
55°	2646	3227	3630
60°	2554	3280	3762
65°	2444	3342	3919
70°	2267	3425	4120
75°	2052	3544	4309
80°	1729	3553	3705
85°	1325	2688	2688



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	225.3	3.0
10°-20°	648.3	8.7
20°-30°	984.8	13.3
30°-40°	1197.9	16.1
40°-50°	1275.3	17.2
50°-60°	1214.7	16.4
60°-70°	1015.8	13.7
70°-80°	677.3	9.1
80°-90°	187.4	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°	1858.5	25.0
0°-40°	3056.4	41.2
0°-60°	5546.4	74.7
0°-90°	7426.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7426.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2374	2374	2374	2374	2374	
5°	2374	2359	2372	2372	2372	225
15°	2261	2266	2305	2322	2330	638
25°	2058	2085	2146	2183	2202	947
35°	1783	1834	1928	1991	2021	1116
45°	1467	1545	1668	1761	1803	1134
55°	1128	1226	1376	1496	1548	1009
65°	768	880	1050	1180	1231	758
75°	395	520	682	797	829	418
85°	86	159	174	172	174	104
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2374.0	2374.0	2374.0	2374.0	2374.0
2.5°	2383.8	2366.6	2374.0	2374.0	2364.2
5°	2374.0	2359.3	2371.5	2371.5	2371.5
7.5°	2356.8	2344.6	2364.2	2369.1	2369.1
10°	2329.9	2324.9	2349.5	2356.8	2359.3
12.5°	2300.4	2298.0	2332.3	2342.1	2349.5
15°	2261.2	2266.1	2305.3	2322.5	2329.9
17.5°	2219.5	2229.3	2273.4	2298.0	2305.3
20°	2170.4	2185.2	2236.7	2261.2	2275.9
22.5°	2116.5	2138.6	2192.5	2221.9	2239.1
25°	2057.6	2084.6	2145.9	2182.7	2202.3
27.5°	1993.9	2028.2	2099.3	2141.0	2160.6
30°	1925.2	1964.4	2042.9	2092.0	2116.5
32.5°	1854.1	1900.7	1986.5	2040.5	2069.9
35°	1783.0	1834.5	1927.6	1991.4	2020.8
37.5°	1711.8	1763.3	1866.3	1935.0	1971.8
40°	1630.9	1692.2	1802.6	1878.6	1915.4
42.5°	1552.4	1618.6	1736.4	1819.7	1859.0
45°	1466.6	1545.1	1667.7	1760.9	1802.6
47.5°	1388.1	1466.6	1599.0	1697.1	1743.7
50°	1302.3	1385.7	1525.4	1633.4	1682.4
52.5°	1218.9	1304.7	1451.9	1567.1	1616.2
55°	1128.1	1226.2	1375.8	1496.0	1547.5
57.5°	1037.4	1142.9	1297.4	1422.4	1473.9
60°	949.1	1057.0	1218.9	1344.0	1397.9
62.5°	860.8	968.7	1137.9	1265.5	1317.0
65°	767.6	880.4	1049.7	1179.6	1231.1
67.5°	674.4	792.2	961.4	1091.4	1140.4
70°	576.3	701.4	870.6	998.2	1047.2
72.5°	485.6	610.7	777.4	902.5	949.1
75°	394.8	519.9	681.8	797.1	828.9
77.5°	306.6	431.6	576.3	652.4	659.7
80°	223.2	340.9	458.6	480.7	478.2
82.5°	149.6	255.1	316.4	318.8	326.2
85°	85.8	159.4	174.1	171.7	174.1
87.5°	34.3	56.4	49.0	36.8	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)