

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: P389193

Luminaire Tested: **24CZ2-90VHE-SQR-UNV-L950-CD1-SDWPD1-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: P389193  
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-L950-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7691.5 lumens  
Efficiency: N/A  
Efficacy: 124.5 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

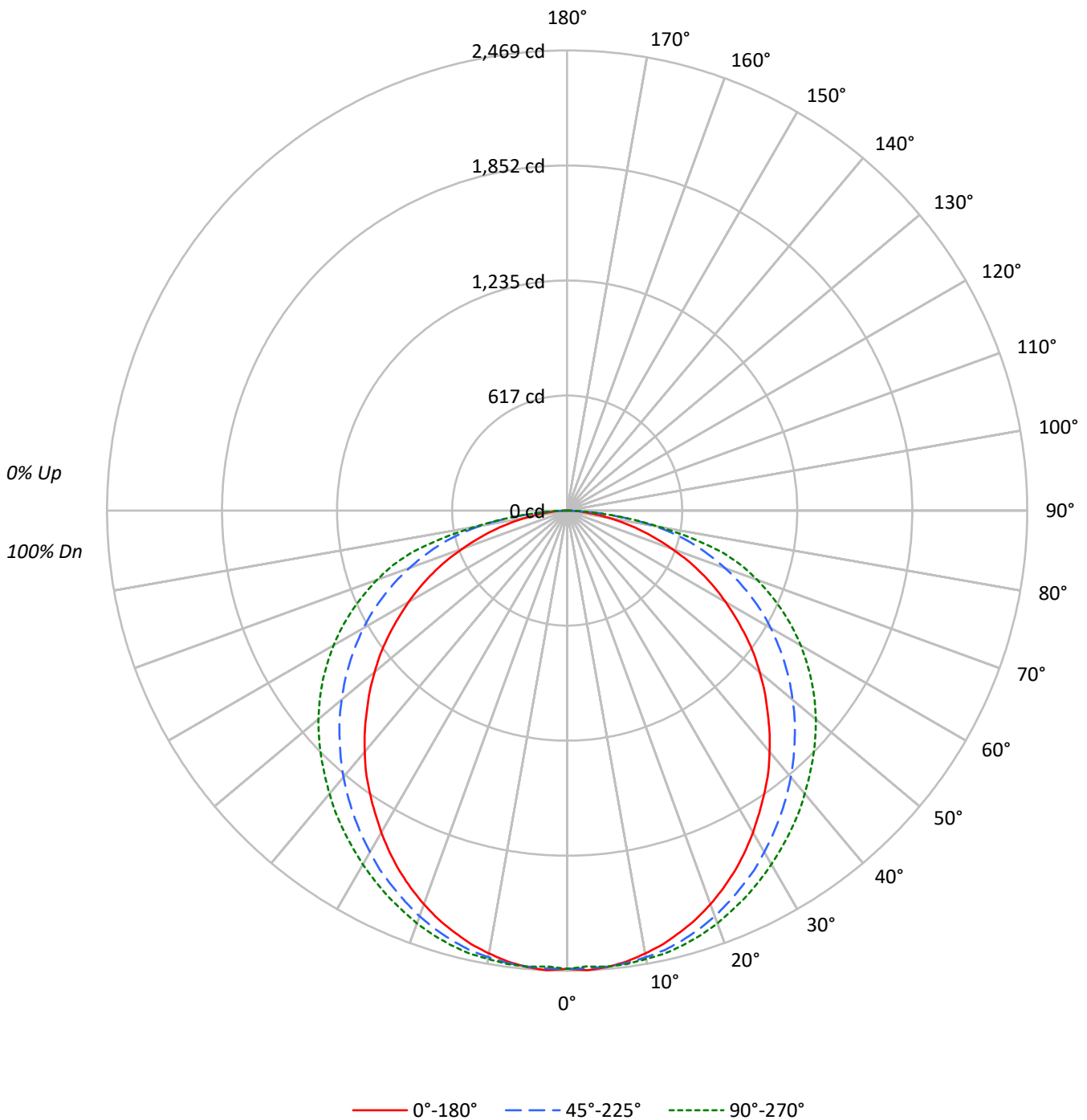
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3308	3308	3308
5°	3321	3317	3317
10°	3297	3324	3338
15°	3262	3326	3361
20°	3218	3317	3375
25°	3163	3299	3386
30°	3098	3287	3405
35°	3033	3279	3438
40°	2967	3279	3484
45°	2890	3286	3552
50°	2823	3307	3647
55°	2741	3343	3759
60°	2645	3397	3896
65°	2531	3461	4059
70°	2348	3547	4266
75°	2126	3671	4463
80°	1791	3680	3838
85°	1372	2783	2783



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	233.4	3.0
10°-20°	671.4	8.7
20°-30°	1019.9	13.3
30°-40°	1240.5	16.1
40°-50°	1320.8	17.2
50°-60°	1258.0	16.4
60°-70°	1052.0	13.7
70°-80°	701.4	9.1
80°-90°	194.1	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°	1924.7	25.0
0°-40°	3165.2	41.2
0°-60°	5744.0	74.7
0°-90°	7691.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7691.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2459	2459	2459	2459	2459	
5°	2459	2443	2456	2456	2456	233
15°	2342	2347	2388	2405	2413	660
25°	2131	2159	2222	2260	2281	981
35°	1846	1900	1996	2062	2093	1155
45°	1519	1600	1727	1824	1867	1174
55°	1168	1270	1425	1549	1603	1044
65°	795	912	1087	1222	1275	785
75°	409	538	706	826	858	433
85°	89	165	180	178	180	107
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2458.6	2458.6	2458.6	2458.6	2458.6
2.5°	2468.7	2451.0	2458.6	2458.6	2448.4
5°	2458.6	2443.3	2456.0	2456.0	2456.0
7.5°	2440.8	2428.1	2448.4	2453.5	2453.5
10°	2412.9	2407.8	2433.2	2440.8	2443.3
12.5°	2382.4	2379.8	2415.4	2425.6	2433.2
15°	2341.7	2346.8	2387.5	2405.2	2412.9
17.5°	2298.6	2308.7	2354.4	2379.8	2387.5
20°	2247.8	2263.0	2316.3	2341.7	2357.0
22.5°	2191.9	2214.8	2270.6	2301.1	2318.9
25°	2130.9	2158.9	2222.4	2260.5	2280.8
27.5°	2064.9	2100.5	2174.1	2217.3	2237.6
30°	1993.8	2034.4	2115.7	2166.5	2191.9
32.5°	1920.1	1968.4	2057.3	2113.2	2143.6
35°	1846.5	1899.8	1996.3	2062.4	2092.8
37.5°	1772.8	1826.2	1932.8	2003.9	2042.0
40°	1689.0	1752.5	1866.8	1945.5	1983.6
42.5°	1607.7	1676.3	1798.2	1884.6	1925.2
45°	1518.8	1600.1	1727.1	1823.6	1866.8
47.5°	1437.6	1518.8	1656.0	1757.6	1805.8
50°	1348.7	1435.0	1579.8	1691.5	1742.3
52.5°	1262.3	1351.2	1503.6	1623.0	1673.8
55°	1168.3	1269.9	1424.9	1549.3	1602.6
57.5°	1074.4	1183.6	1343.6	1473.1	1526.5
60°	982.9	1094.7	1262.3	1391.8	1447.7
62.5°	891.5	1003.2	1178.5	1310.6	1363.9
65°	795.0	911.8	1087.1	1221.7	1275.0
67.5°	698.5	820.4	995.6	1130.2	1181.0
70°	596.9	726.4	901.6	1033.7	1084.5
72.5°	502.9	632.4	805.1	934.7	982.9
75°	408.9	538.4	706.1	825.5	858.5
77.5°	317.5	447.0	596.9	675.6	683.2
80°	231.1	353.0	475.0	497.8	495.3
82.5°	154.9	264.1	327.6	330.2	337.8
85°	88.9	165.1	180.3	177.8	180.3
87.5°	35.6	58.4	50.8	38.1	38.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)