

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: P389194

Luminaire Tested: **24CZ2-90VHE-SQR-UNV-L950-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: P389194  
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-SWPD1-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: 7785.4 lumens  
Efficiency: N/A  
Efficacy: 126.0 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

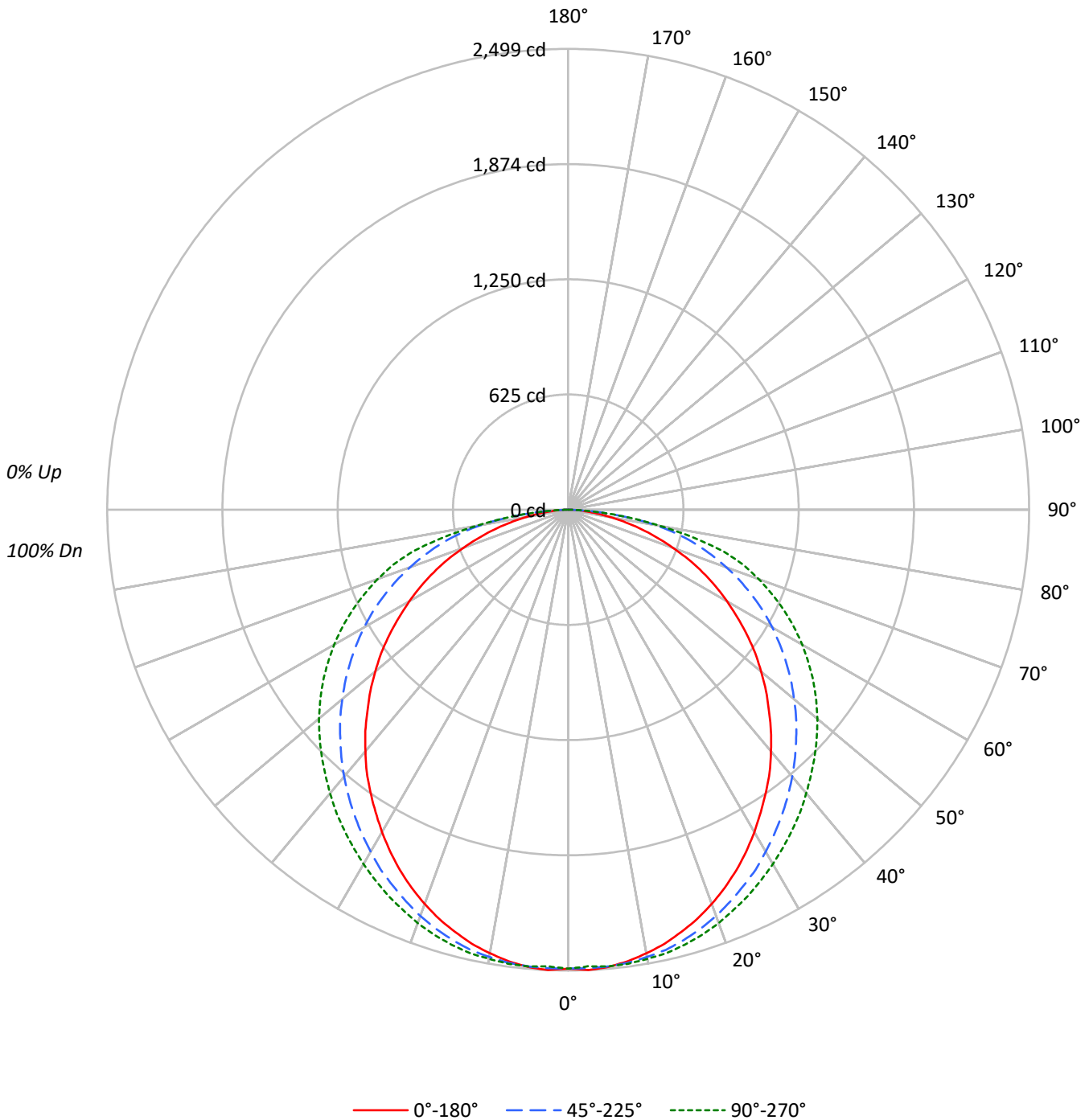
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3348	3348	3348
5°	3361	3358	3358
10°	3337	3365	3379
15°	3302	3366	3402
20°	3258	3357	3416
25°	3202	3340	3427
30°	3135	3327	3447
35°	3070	3319	3480
40°	3003	3319	3527
45°	2925	3326	3596
50°	2857	3347	3692
55°	2774	3383	3805
60°	2677	3438	3943
65°	2562	3503	4109
70°	2377	3591	4319
75°	2152	3715	4518
80°	1812	3725	3884
85°	1389	2817	2817



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.2	3.0
10°-20°	679.6	8.7
20°-30°	1032.3	13.3
30°-40°	1255.7	16.1
40°-50°	1336.9	17.2
50°-60°	1273.3	16.4
60°-70°	1064.9	13.7
70°-80°	710.0	9.1
80°-90°	196.4	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°	1948.2	25.0
0°-40°	3203.9	41.2
0°-60°	5814.1	74.7
0°-90°	7785.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7785.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2489	2489	2489	2489	2489	
5°	2489	2473	2486	2486	2486	236
15°	2370	2376	2417	2435	2442	668
25°	2157	2185	2250	2288	2309	993
35°	1869	1923	2021	2088	2118	1170
45°	1537	1620	1748	1846	1890	1188
55°	1183	1285	1442	1568	1622	1057
65°	805	923	1100	1237	1291	795
75°	414	545	715	836	869	438
85°	90	167	182	180	182	109
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2488.6	2488.6	2488.6	2488.6	2488.6
2.5°	2498.9	2480.9	2488.6	2488.6	2478.3
5°	2488.6	2473.2	2486.0	2486.0	2486.0
7.5°	2470.6	2457.7	2478.3	2483.5	2483.5
10°	2442.3	2437.2	2462.9	2470.6	2473.2
12.5°	2411.5	2408.9	2444.9	2455.2	2462.9
15°	2370.3	2375.5	2416.6	2434.6	2442.3
17.5°	2326.6	2336.9	2383.2	2408.9	2416.6
20°	2275.2	2290.6	2344.6	2370.3	2385.8
22.5°	2218.7	2241.8	2298.3	2329.2	2347.2
25°	2157.0	2185.2	2249.5	2288.1	2308.6
27.5°	2090.1	2126.1	2200.7	2244.4	2264.9
30°	2018.1	2059.3	2141.5	2192.9	2218.7
32.5°	1943.6	1992.4	2082.4	2139.0	2169.8
35°	1869.0	1923.0	2020.7	2087.5	2118.4
37.5°	1794.5	1848.4	1956.4	2028.4	2067.0
40°	1709.6	1773.9	1889.6	1969.3	2007.8
42.5°	1627.4	1696.8	1820.2	1907.6	1948.7
45°	1537.4	1619.6	1748.2	1845.9	1889.6
47.5°	1455.1	1537.4	1676.2	1779.0	1827.9
50°	1365.1	1452.5	1599.1	1712.2	1763.6
52.5°	1277.7	1367.7	1521.9	1642.8	1694.2
55°	1182.6	1285.4	1442.3	1568.2	1622.2
57.5°	1087.5	1198.0	1360.0	1491.1	1545.1
60°	994.9	1108.0	1277.7	1408.8	1465.4
62.5°	902.4	1015.5	1192.9	1326.6	1380.6
65°	804.7	922.9	1100.3	1236.6	1290.6
67.5°	707.0	830.4	1007.8	1144.0	1195.5
70°	604.2	735.3	912.7	1046.3	1097.8
72.5°	509.0	640.1	815.0	946.1	994.9
75°	413.9	545.0	714.7	835.5	869.0
77.5°	321.4	452.5	604.2	683.8	691.6
80°	233.9	357.3	480.8	503.9	501.3
82.5°	156.8	267.4	331.6	334.2	341.9
85°	90.0	167.1	182.5	180.0	182.5
87.5°	36.0	59.1	51.4	38.6	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)