

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: P389931

Luminaire Tested: **24CZ2-80VHE-S-UNV-L940-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: P389931  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-80VHE-S-UNV-L940-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7118.0 lumens  
Efficiency: N/A  
Efficacy: 132.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

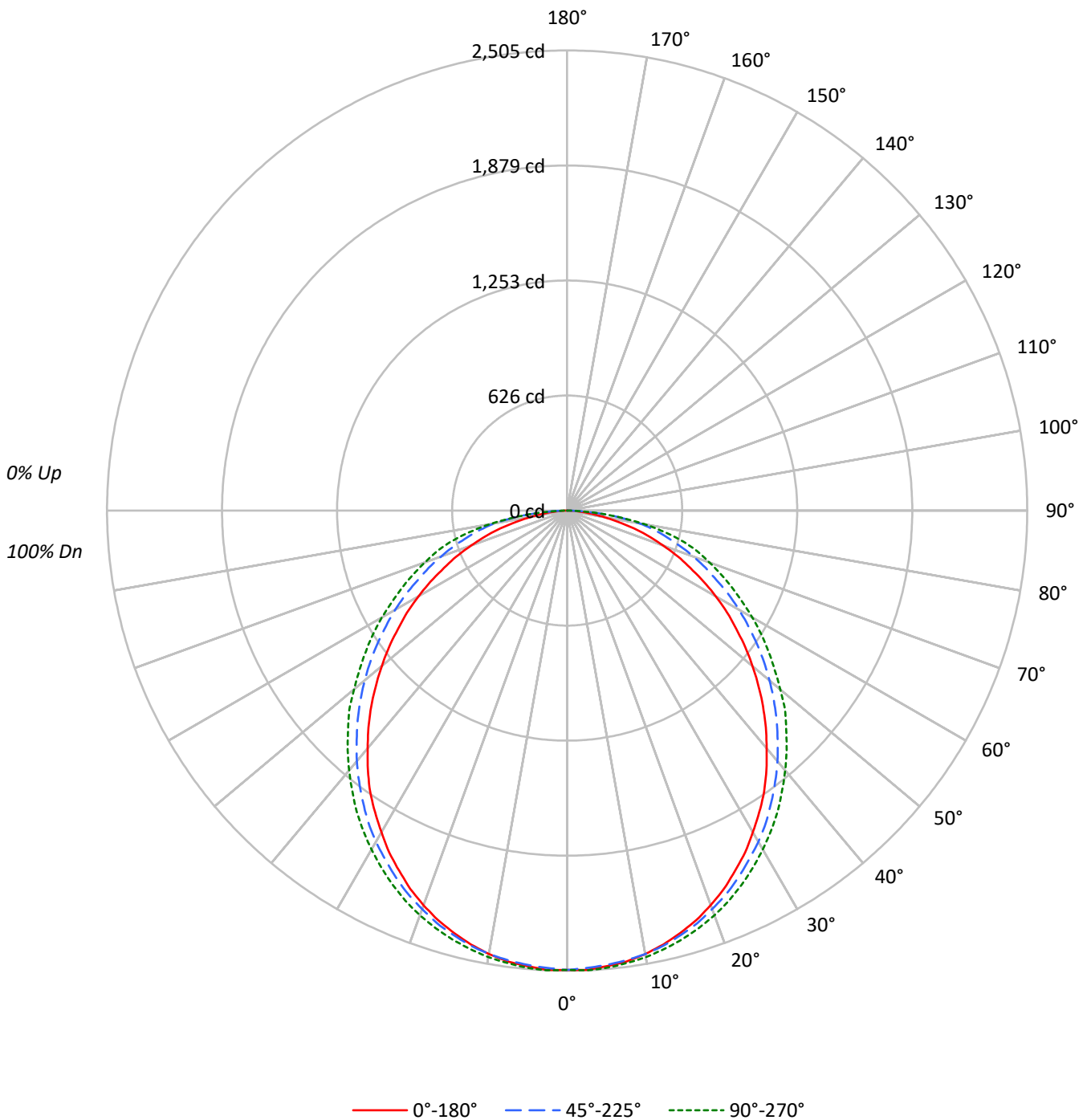
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69					69			
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42					42			
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3365	3365	3365
5°	3362	3353	3374
10°	3349	3349	3373
15°	3316	3332	3367
20°	3273	3305	3357
25°	3212	3273	3336
30°	3140	3235	3309
35°	3071	3183	3283
40°	2966	3129	3244
45°	2869	3068	3209
50°	2759	3010	3171
55°	2636	2954	3140
60°	2513	2908	3133
65°	2354	2858	3153
70°	2179	2873	3238
75°	1951	2927	3420
80°	1577	3101	3346
85°	1187	2723	2652



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.7	3.3
10°-20°	676.4	9.5
20°-30°	1016.8	14.3
30°-40°	1211.2	17.0
40°-50°	1239.6	17.4
50°-60°	1116.0	15.7
60°-70°	876.4	12.3
70°-80°	568.8	8.0
80°-90°	175.9	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°	1930.0	27.1
0°-40°	3141.2	44.1
0°-60°	5496.8	77.2
0°-90°	7118.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7118.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2501	2501	2501	2501	2501	
5°	2489	2494	2482	2496	2498	237
15°	2381	2388	2392	2412	2417	671
25°	2164	2182	2204	2241	2247	997
35°	1870	1892	1938	1985	1999	1166
45°	1508	1544	1612	1673	1687	1163
55°	1124	1173	1259	1325	1338	1007
65°	739	796	898	972	990	736
75°	375	448	563	640	658	397
85°	77	142	176	172	172	93
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2500.6	2500.6	2500.6	2500.6	2500.6
2.5°	2502.9	2502.9	2491.6	2502.9	2505.1
5°	2489.3	2493.8	2482.5	2496.1	2498.3
7.5°	2475.7	2475.7	2468.9	2482.5	2484.8
10°	2450.9	2453.1	2450.9	2466.7	2468.9
12.5°	2419.2	2423.7	2426.0	2441.8	2444.1
15°	2380.8	2387.6	2392.1	2412.4	2416.9
17.5°	2337.8	2344.6	2355.9	2378.5	2383.0
20°	2285.8	2294.9	2308.4	2337.8	2344.6
22.5°	2229.3	2238.3	2260.9	2288.1	2299.4
25°	2163.7	2181.8	2204.4	2240.6	2247.4
27.5°	2098.2	2114.0	2143.4	2181.8	2190.9
30°	2021.3	2046.2	2082.3	2120.8	2129.8
32.5°	1946.7	1971.5	2014.5	2055.2	2066.5
35°	1869.8	1892.4	1937.6	1985.1	1998.7
37.5°	1781.6	1811.0	1860.8	1908.2	1921.8
40°	1688.9	1725.1	1781.6	1831.4	1847.2
42.5°	1600.7	1639.2	1695.7	1750.0	1768.1
45°	1508.0	1544.2	1612.1	1673.1	1686.7
47.5°	1413.1	1453.8	1526.1	1587.2	1609.8
50°	1318.1	1361.1	1438.0	1501.3	1514.8
52.5°	1223.2	1268.4	1349.8	1417.6	1424.4
55°	1123.7	1173.4	1259.3	1324.9	1338.5
57.5°	1033.2	1076.2	1168.9	1236.7	1252.6
60°	933.8	981.2	1080.7	1144.0	1164.4
62.5°	838.8	888.5	992.6	1055.9	1073.9
65°	739.3	795.9	897.6	972.2	990.3
67.5°	653.4	707.7	816.2	888.5	906.6
70°	553.9	615.0	730.3	804.9	823.0
72.5°	468.0	531.3	646.6	719.0	746.1
75°	375.3	447.7	563.0	639.8	657.9
77.5°	284.9	368.5	486.1	544.9	544.9
80°	203.5	291.7	400.2	427.3	431.8
82.5°	133.4	219.3	296.2	293.9	293.9
85°	76.9	142.4	176.4	171.8	171.8
87.5°	29.4	58.8	63.3	63.3	61.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)