

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: P389861

Luminaire Tested: **24CZ2-65VHE-S-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: P389861  
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: 24CZ2-65VHE-S-UNV-L940-CD1-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: 5892.5 lumens  
Efficiency: N/A  
Efficacy: 139.6 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

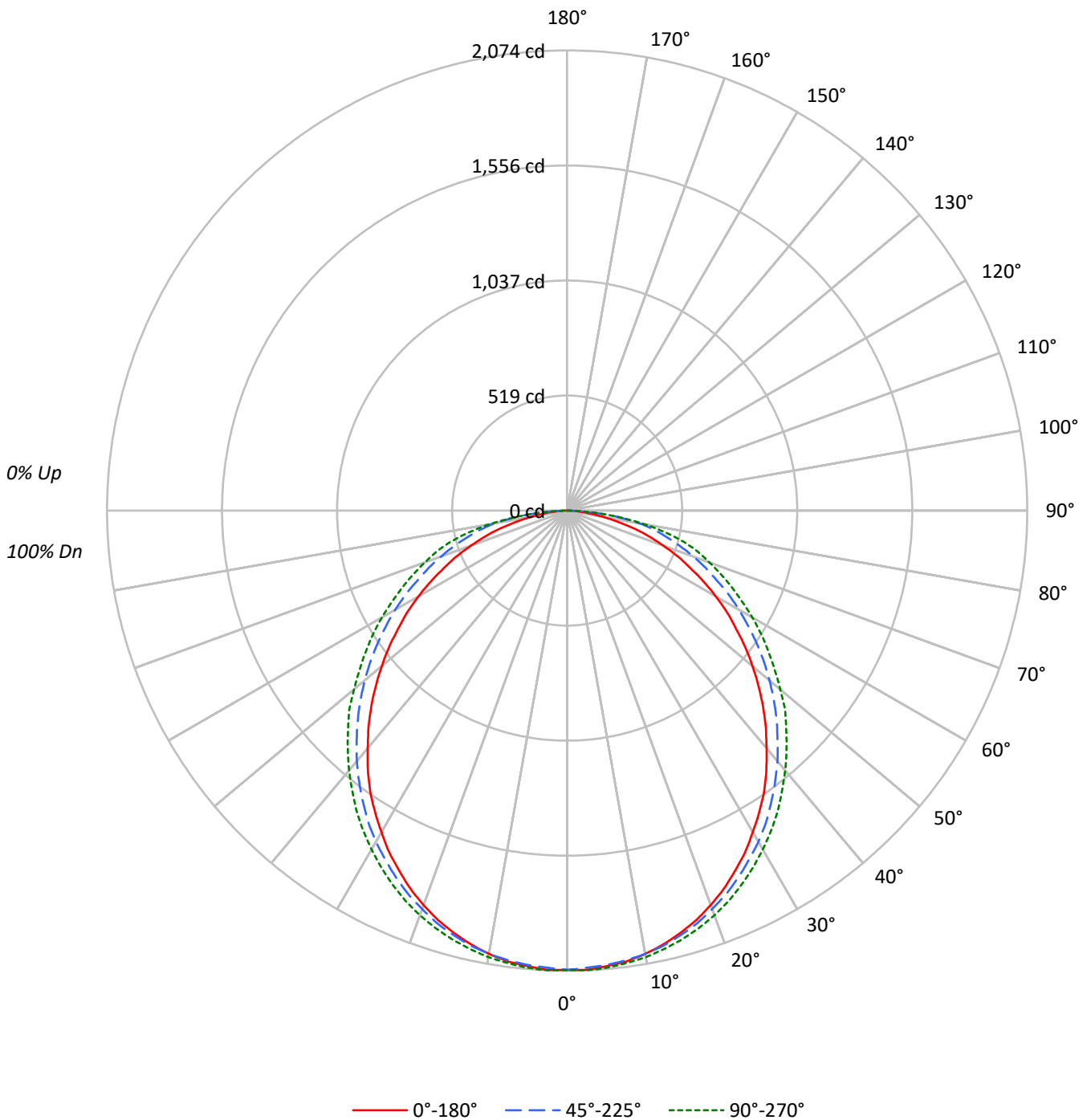
Input Watts (W): 42.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2785	2785	2785
5°	2783	2776	2793
10°	2772	2772	2792
15°	2745	2758	2787
20°	2709	2736	2779
25°	2659	2709	2762
30°	2600	2678	2739
35°	2542	2635	2718
40°	2456	2591	2686
45°	2375	2539	2657
50°	2284	2492	2625
55°	2182	2445	2599
60°	2080	2408	2594
65°	1948	2366	2610
70°	1804	2378	2680
75°	1615	2423	2832
80°	1306	2567	2770
85°	982	2254	2195



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	196.0	3.3
10°-20°	560.0	9.5
20°-30°	841.8	14.3
30°-40°	1002.7	17.0
40°-50°	1026.2	17.4
50°-60°	923.9	15.7
60°-70°	725.5	12.3
70°-80°	470.9	8.0
80°-90°	145.6	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°	1597.7	27.1
0°-40°	2600.4	44.1
0°-60°	4550.5	77.2
0°-90°	5892.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5892.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2070	2070	2070	2070	2070	
5°	2061	2064	2055	2066	2068	196
15°	1971	1976	1980	1997	2001	556
25°	1791	1806	1825	1855	1860	825
35°	1548	1567	1604	1643	1655	966
45°	1248	1278	1334	1385	1396	962
55°	930	971	1042	1097	1108	834
65°	612	659	743	805	820	609
75°	311	371	466	530	545	329
85°	64	118	146	142	142	77
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2070.1	2070.1	2070.1	2070.1	2070.1
2.5°	2071.9	2071.9	2062.6	2071.9	2073.8
5°	2060.7	2064.5	2055.1	2066.3	2068.2
7.5°	2049.5	2049.5	2043.9	2055.1	2057.0
10°	2028.9	2030.8	2028.9	2042.0	2043.9
12.5°	2002.7	2006.4	2008.3	2021.4	2023.3
15°	1970.9	1976.5	1980.2	1997.1	2000.8
17.5°	1935.3	1940.9	1950.3	1969.0	1972.7
20°	1892.3	1899.8	1911.0	1935.3	1940.9
22.5°	1845.5	1853.0	1871.7	1894.1	1903.5
25°	1791.2	1806.2	1824.9	1854.8	1860.4
27.5°	1736.9	1750.0	1774.3	1806.2	1813.7
30°	1673.3	1693.9	1723.8	1755.6	1763.1
32.5°	1611.5	1632.1	1667.7	1701.4	1710.7
35°	1547.9	1566.6	1604.0	1643.3	1654.6
37.5°	1474.9	1499.2	1540.4	1579.7	1590.9
40°	1398.1	1428.1	1474.9	1516.1	1529.2
42.5°	1325.1	1357.0	1403.8	1448.7	1463.7
45°	1248.4	1278.4	1334.5	1385.0	1396.3
47.5°	1169.8	1203.5	1263.4	1313.9	1332.6
50°	1091.2	1126.7	1190.4	1242.8	1254.0
52.5°	1012.6	1050.0	1117.4	1173.5	1179.2
55°	930.2	971.4	1042.5	1096.8	1108.0
57.5°	855.4	890.9	967.7	1023.8	1036.9
60°	773.0	812.3	894.7	947.1	963.9
62.5°	694.4	735.6	821.7	874.1	889.0
65°	612.0	658.8	743.1	804.8	819.8
67.5°	540.9	585.8	675.7	735.6	750.5
70°	458.6	509.1	604.6	666.3	681.3
72.5°	387.4	439.8	535.3	595.2	617.7
75°	310.7	370.6	466.0	529.7	544.7
77.5°	235.8	305.1	402.4	451.1	451.1
80°	168.5	241.4	331.3	353.7	357.5
82.5°	110.4	181.6	245.2	243.3	243.3
85°	63.6	117.9	146.0	142.2	142.2
87.5°	24.3	48.7	52.4	52.4	50.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)