

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: P389855

Luminaire Tested: **24CZ2-65VHE-S-UNV-L930-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: P389855  
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-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5691.4 lumens  
Efficiency: N/A  
Efficacy: 134.9 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

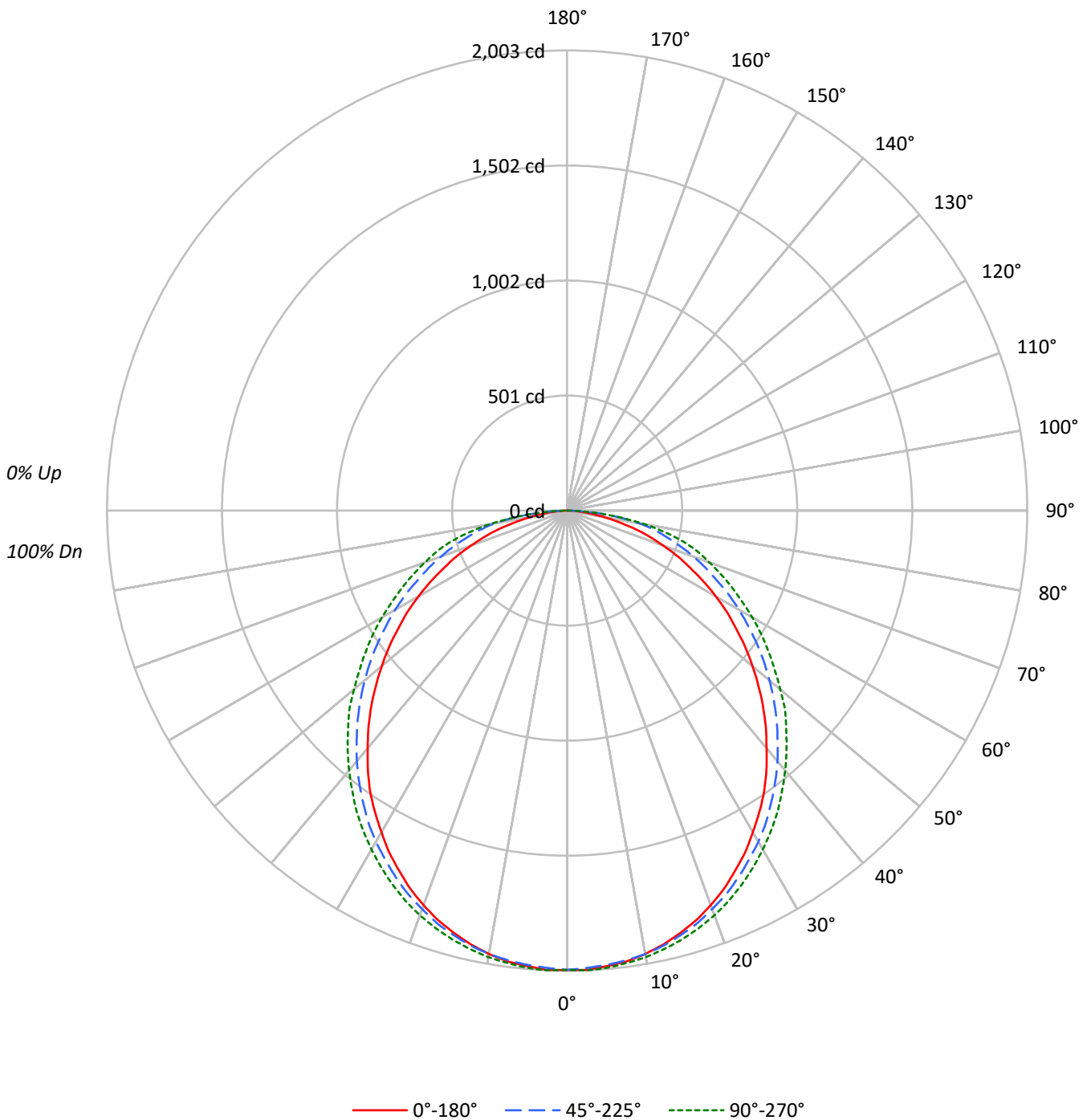
Input Watts (W): 42.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	2690	2690	2690
5°	2688	2681	2698
10°	2677	2677	2697
15°	2652	2664	2692
20°	2617	2643	2684
25°	2568	2617	2668
30°	2511	2587	2646
35°	2456	2545	2625
40°	2372	2502	2594
45°	2294	2453	2566
50°	2206	2407	2535
55°	2108	2362	2510
60°	2009	2325	2505
65°	1882	2285	2521
70°	1742	2297	2589
75°	1560	2340	2735
80°	1261	2479	2676
85°	949	2177	2121



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.3	3.3
10°-20°	540.9	9.5
20°-30°	813.0	14.3
30°-40°	968.4	17.0
40°-50°	991.2	17.4
50°-60°	892.3	15.7
60°-70°	700.8	12.3
70°-80°	454.8	8.0
80°-90°	140.7	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°	1543.2	27.1
0°-40°	2511.6	44.1
0°-60°	4395.1	77.2
0°-90°	5691.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5691.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1999	1999	1999	1999	1999	
5°	1990	1994	1985	1996	1998	189
15°	1904	1909	1913	1929	1932	537
25°	1730	1744	1763	1792	1797	797
35°	1495	1513	1549	1587	1598	933
45°	1206	1235	1289	1338	1349	930
55°	898	938	1007	1059	1070	805
65°	591	636	718	777	792	588
75°	300	358	450	512	526	318
85°	62	114	141	137	137	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1999.4	1999.4	1999.4	1999.4	1999.4
2.5°	2001.2	2001.2	1992.2	2001.2	2003.0
5°	1990.4	1994.0	1985.0	1995.8	1997.6
7.5°	1979.5	1979.5	1974.1	1985.0	1986.8
10°	1959.7	1961.5	1959.7	1972.3	1974.1
12.5°	1934.3	1938.0	1939.8	1952.4	1954.2
15°	1903.6	1909.0	1912.7	1928.9	1932.5
17.5°	1869.3	1874.7	1883.7	1901.8	1905.4
20°	1827.7	1834.9	1845.8	1869.3	1874.7
22.5°	1782.5	1789.7	1807.8	1829.5	1838.5
25°	1730.1	1744.5	1762.6	1791.5	1797.0
27.5°	1677.6	1690.3	1713.8	1744.5	1751.8
30°	1616.2	1636.1	1665.0	1695.7	1702.9
32.5°	1556.5	1576.4	1610.7	1643.3	1652.3
35°	1495.1	1513.1	1549.3	1587.2	1598.1
37.5°	1424.5	1448.0	1487.8	1525.8	1536.6
40°	1350.4	1379.4	1424.5	1464.3	1477.0
42.5°	1279.9	1310.7	1355.8	1399.2	1413.7
45°	1205.8	1234.7	1289.0	1337.8	1348.6
47.5°	1129.9	1162.4	1220.3	1269.1	1287.2
50°	1053.9	1088.3	1149.8	1200.4	1211.2
52.5°	978.0	1014.2	1079.3	1133.5	1138.9
55°	898.5	938.2	1006.9	1059.4	1070.2
57.5°	826.2	860.5	934.6	988.9	1001.5
60°	746.6	784.6	864.1	914.7	931.0
62.5°	670.7	710.5	793.6	844.2	858.7
65°	591.2	636.3	717.7	777.4	791.8
67.5°	522.5	565.8	652.6	710.5	724.9
70°	442.9	491.7	583.9	643.6	658.0
72.5°	374.2	424.8	517.0	574.9	596.6
75°	300.1	357.9	450.1	511.6	526.1
77.5°	227.8	294.7	388.7	435.7	435.7
80°	162.7	233.2	320.0	341.7	345.3
82.5°	106.7	175.4	236.8	235.0	235.0
85°	61.5	113.9	141.0	137.4	137.4
87.5°	23.5	47.0	50.6	50.6	48.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)