

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: P388947

Luminaire Tested: **24CZ2-70VHE-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: P388947  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70VHE-UNV-L940-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

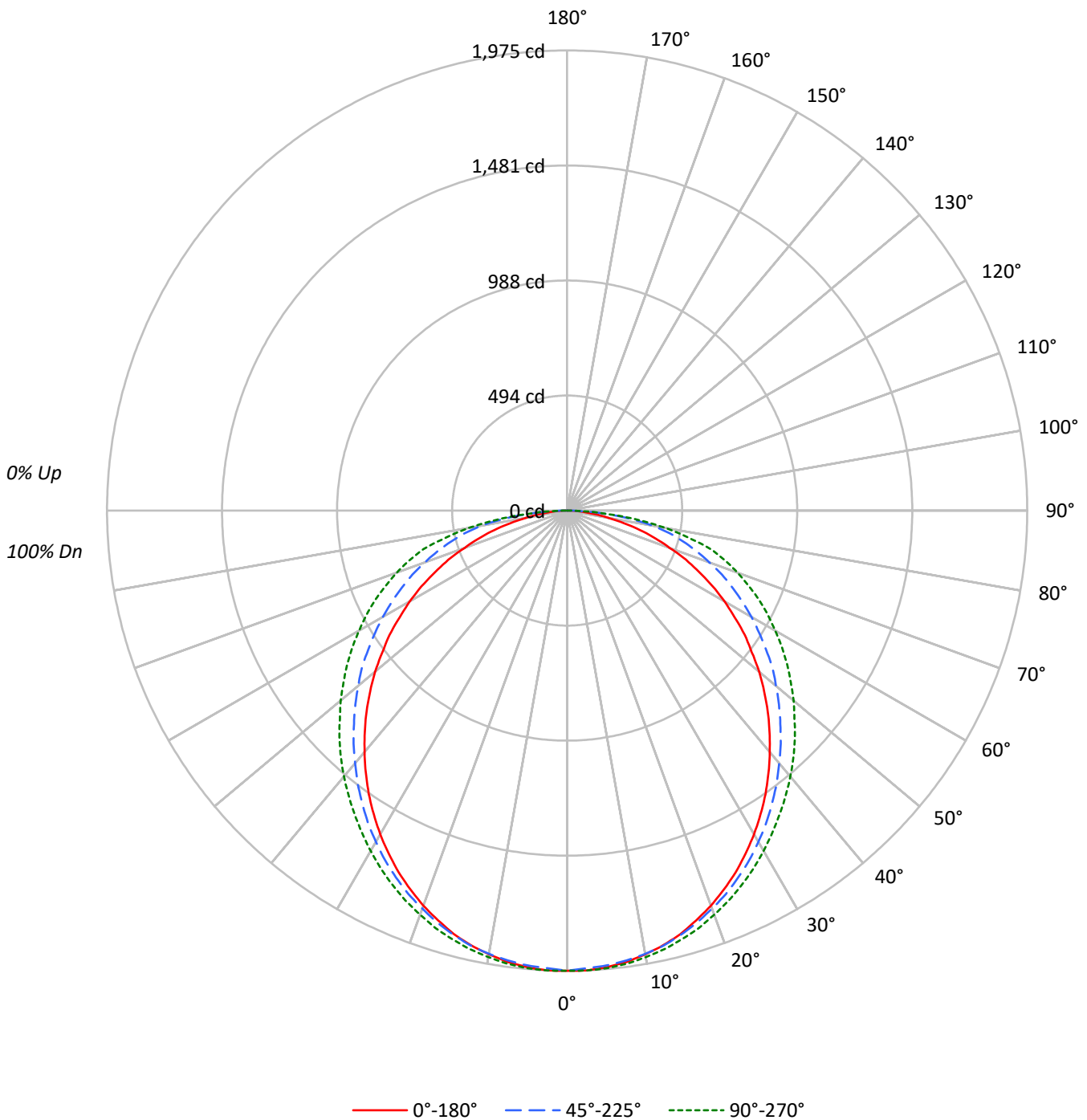
Lumens per Lamp: N/A  
Luminaire Lumens: 5883.4 lumens  
Efficiency: N/A  
Efficacy: 128.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	2658	2658	2658
5°	2657	2647	2663
10°	2642	2640	2659
15°	2620	2626	2653
20°	2584	2603	2643
25°	2542	2580	2632
30°	2492	2550	2621
35°	2438	2519	2612
40°	2376	2487	2618
45°	2316	2462	2630
50°	2252	2450	2655
55°	2183	2446	2704
60°	2098	2457	2774
65°	1988	2494	2894
70°	1846	2557	3059
75°	1684	2685	3318
80°	1385	2891	3317
85°	1061	2668	2850



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.8	3.2
10°-20°	533.4	9.1
20°-30°	802.6	13.6
30°-40°	961.8	16.3
40°-50°	1002.3	17.0
50°-60°	932.6	15.9
60°-70°	768.1	13.1
70°-80°	523.1	8.9
80°-90°	172.7	2.9
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°	1522.8	25.9
0°-40°	2484.6	42.2
0°-60°	4419.5	75.1
0°-90°	5883.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5883.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1975	1975	1975	1975	1975	
5°	1968	1968	1960	1969	1971	187
15°	1881	1883	1885	1903	1905	530
25°	1712	1720	1738	1767	1773	788
35°	1484	1502	1534	1575	1590	928
45°	1217	1243	1294	1359	1382	939
55°	931	962	1043	1125	1153	830
65°	624	677	784	876	909	620
75°	324	397	516	609	638	342
85°	69	134	173	185	185	85
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1975.3	1975.3	1975.3	1975.3	1975.3
2.5°	1975.3	1975.3	1965.5	1975.3	1975.3
5°	1967.5	1967.5	1959.6	1969.4	1971.4
7.5°	1953.7	1955.7	1947.8	1959.6	1961.6
10°	1934.1	1936.1	1932.1	1943.9	1945.9
12.5°	1910.5	1912.5	1912.5	1926.2	1928.2
15°	1881.1	1883.0	1885.0	1902.7	1904.6
17.5°	1843.8	1849.7	1853.6	1875.2	1879.1
20°	1804.5	1810.4	1818.2	1841.8	1845.7
22.5°	1759.3	1767.2	1780.9	1806.5	1812.4
25°	1712.2	1720.1	1737.7	1767.2	1773.1
27.5°	1659.2	1671.0	1692.6	1724.0	1731.9
30°	1604.2	1616.0	1641.5	1674.9	1686.7
32.5°	1545.3	1561.0	1590.5	1627.8	1639.6
35°	1484.4	1502.1	1533.5	1574.8	1590.5
37.5°	1419.6	1439.3	1476.6	1521.8	1541.4
40°	1352.9	1376.4	1415.7	1468.7	1490.3
42.5°	1286.1	1307.7	1356.8	1413.8	1437.3
45°	1217.4	1242.9	1294.0	1358.8	1382.3
47.5°	1146.7	1172.2	1233.1	1301.8	1323.4
50°	1076.0	1101.6	1170.3	1242.9	1268.5
52.5°	999.4	1032.8	1111.4	1184.0	1209.5
55°	930.7	962.1	1042.6	1125.1	1152.6
57.5°	852.2	889.5	977.8	1064.2	1093.7
60°	779.5	818.8	913.1	1001.4	1030.9
62.5°	704.9	748.1	848.3	938.6	972.0
65°	624.4	677.4	783.5	875.7	909.1
67.5°	551.8	606.7	718.7	812.9	842.4
70°	469.3	536.0	649.9	744.2	777.6
72.5°	398.6	465.4	585.1	677.4	710.8
75°	324.0	396.6	516.4	608.7	638.2
77.5°	249.4	329.9	449.7	520.3	530.2
80°	178.7	263.1	373.1	414.3	428.1
82.5°	125.7	202.2	274.9	302.4	310.2
85°	68.7	133.5	172.8	184.6	184.6
87.5°	29.5	56.9	68.7	70.7	72.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)