

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: P391011

Luminaire Tested: **24CZ2-120VHE-RDP-UNV-L940-CD2-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: P391011  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-120VHE-RDP-UNV-L940-CD2-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RDP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6844.9 lumens  
Efficiency: N/A  
Efficacy: 81.9 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

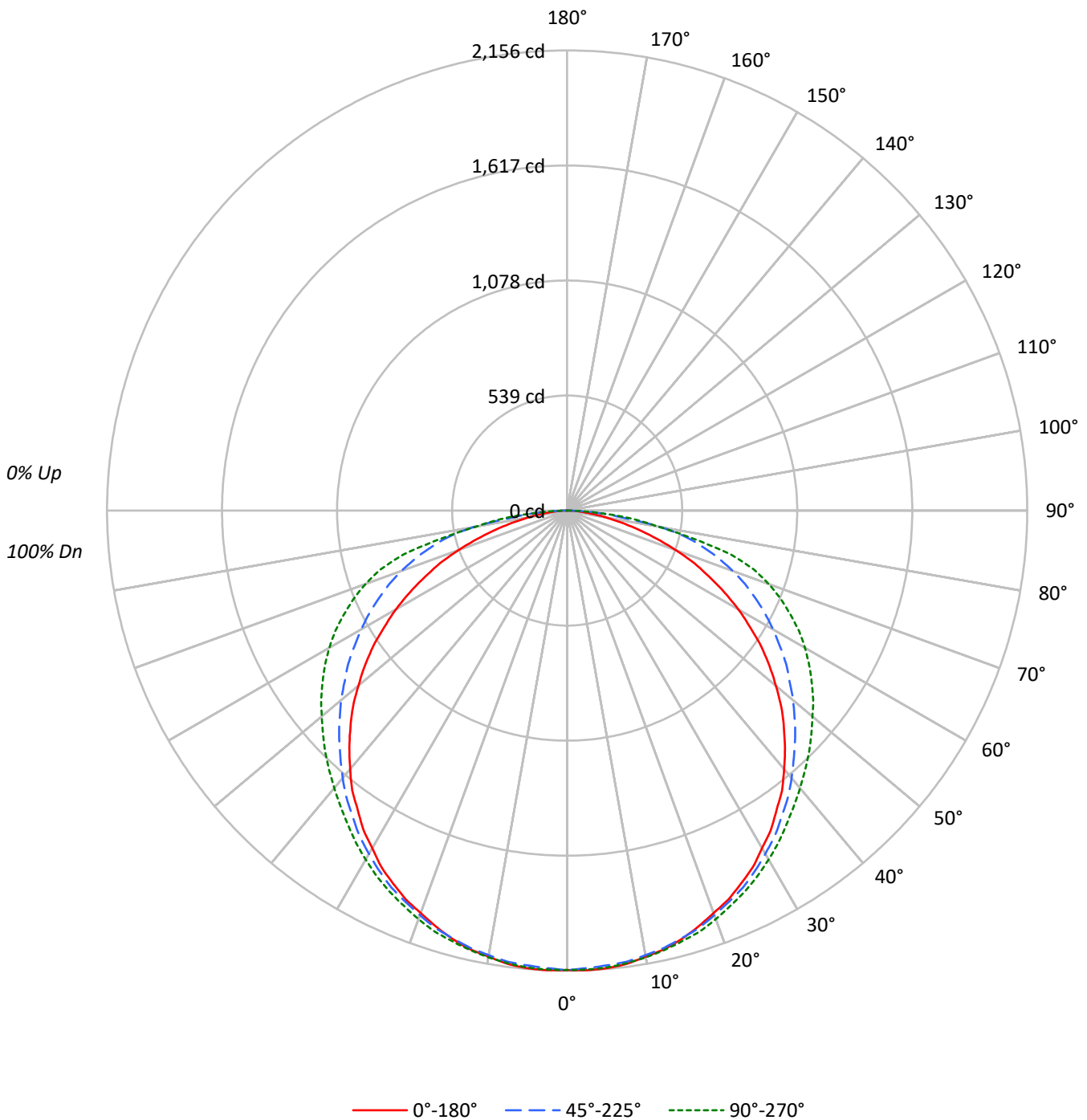
Input Watts (W): 83.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82					82			
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67					67			
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47					47			
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40					40			
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35					35			
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27					27			
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24					24			
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22					22			

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

	0°	45°	90°
0°	2896	2896	2896
5°	2907	2889	2903
10°	2899	2890	2904
15°	2894	2890	2908
20°	2873	2888	2917
25°	2863	2893	2923
30°	2838	2885	2933
35°	2811	2878	2944
40°	2779	2874	2982
45°	2733	2875	3049
50°	2672	2892	3141
55°	2604	2939	3281
60°	2494	2997	3463
65°	2335	3102	3675
70°	2124	3246	3954
75°	1800	3424	4130
80°	1420	3446	3341
85°	1048	2621	2935



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.2	3.0
10°-20°	587.6	8.6
20°-30°	898.6	13.1
30°-40°	1098.6	16.0
40°-50°	1170.8	17.1
50°-60°	1119.5	16.4
60°-70°	948.3	13.9
70°-80°	637.4	9.3
80°-90°	179.8	2.6
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°	1690.5	24.7
0°-40°	2789.0	40.7
0°-60°	5079.4	74.2
0°-90°	6844.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6844.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2152	2152	2152	2152	2152	
5°	2152	2149	2139	2149	2149	205
15°	2078	2078	2074	2091	2088	586
25°	1928	1935	1949	1966	1969	889
35°	1711	1725	1752	1786	1793	1072
45°	1436	1460	1511	1575	1602	1108
55°	1110	1151	1253	1351	1399	989
65°	733	808	974	1103	1154	728
75°	346	472	659	771	794	371
85°	68	139	170	183	190	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2152.5	2152.5	2152.5	2152.5	2152.5
2.5°	2155.9	2155.9	2145.7	2152.5	2152.5
5°	2152.5	2149.1	2138.9	2149.1	2149.1
7.5°	2142.3	2138.9	2132.2	2142.3	2138.9
10°	2122.0	2122.0	2115.2	2125.4	2125.4
12.5°	2105.0	2101.6	2098.2	2111.8	2108.4
15°	2077.8	2077.8	2074.4	2091.4	2088.0
17.5°	2043.9	2047.3	2050.7	2064.3	2067.6
20°	2006.5	2013.3	2016.7	2037.1	2037.1
22.5°	1972.6	1976.0	1982.8	2003.1	2003.1
25°	1928.4	1935.2	1948.8	1965.8	1969.2
27.5°	1884.3	1887.7	1904.7	1928.4	1931.8
30°	1826.6	1836.8	1857.1	1884.3	1887.7
32.5°	1775.7	1785.8	1809.6	1836.8	1843.6
35°	1711.2	1724.7	1751.9	1785.8	1792.6
37.5°	1653.4	1663.6	1697.6	1734.9	1745.1
40°	1582.1	1602.5	1636.5	1680.6	1697.6
42.5°	1510.8	1531.2	1572.0	1629.7	1650.0
45°	1436.1	1459.9	1510.8	1575.3	1602.5
47.5°	1361.5	1388.6	1446.3	1521.0	1551.6
50°	1276.6	1310.5	1381.8	1466.7	1500.7
52.5°	1195.1	1235.8	1313.9	1409.0	1453.1
55°	1110.2	1151.0	1252.8	1351.3	1398.8
57.5°	1015.2	1069.5	1181.5	1293.6	1344.5
60°	926.9	977.8	1113.6	1235.8	1286.8
62.5°	831.8	899.7	1045.7	1174.7	1225.6
65°	733.4	808.0	974.4	1103.4	1154.4
67.5°	645.1	726.6	903.1	1032.1	1083.1
70°	539.8	641.7	825.0	954.0	1005.0
72.5°	441.4	553.4	743.5	869.2	916.7
75°	346.3	471.9	658.7	770.7	794.5
77.5°	258.0	390.4	570.4	617.9	600.9
80°	183.3	312.4	444.8	421.0	431.2
82.5°	118.8	237.7	275.0	312.4	322.5
85°	67.9	139.2	169.8	183.3	190.1
87.5°	30.6	50.9	67.9	67.9	64.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)