

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: P391589

Luminaire Tested: **24CZ2-65VHE-RDP-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: P391589  
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: 24CZ2-65VHE-RDP-UNV-L940-CD1-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: 3771.7 lumens  
Efficiency: N/A  
Efficacy: 89.4 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

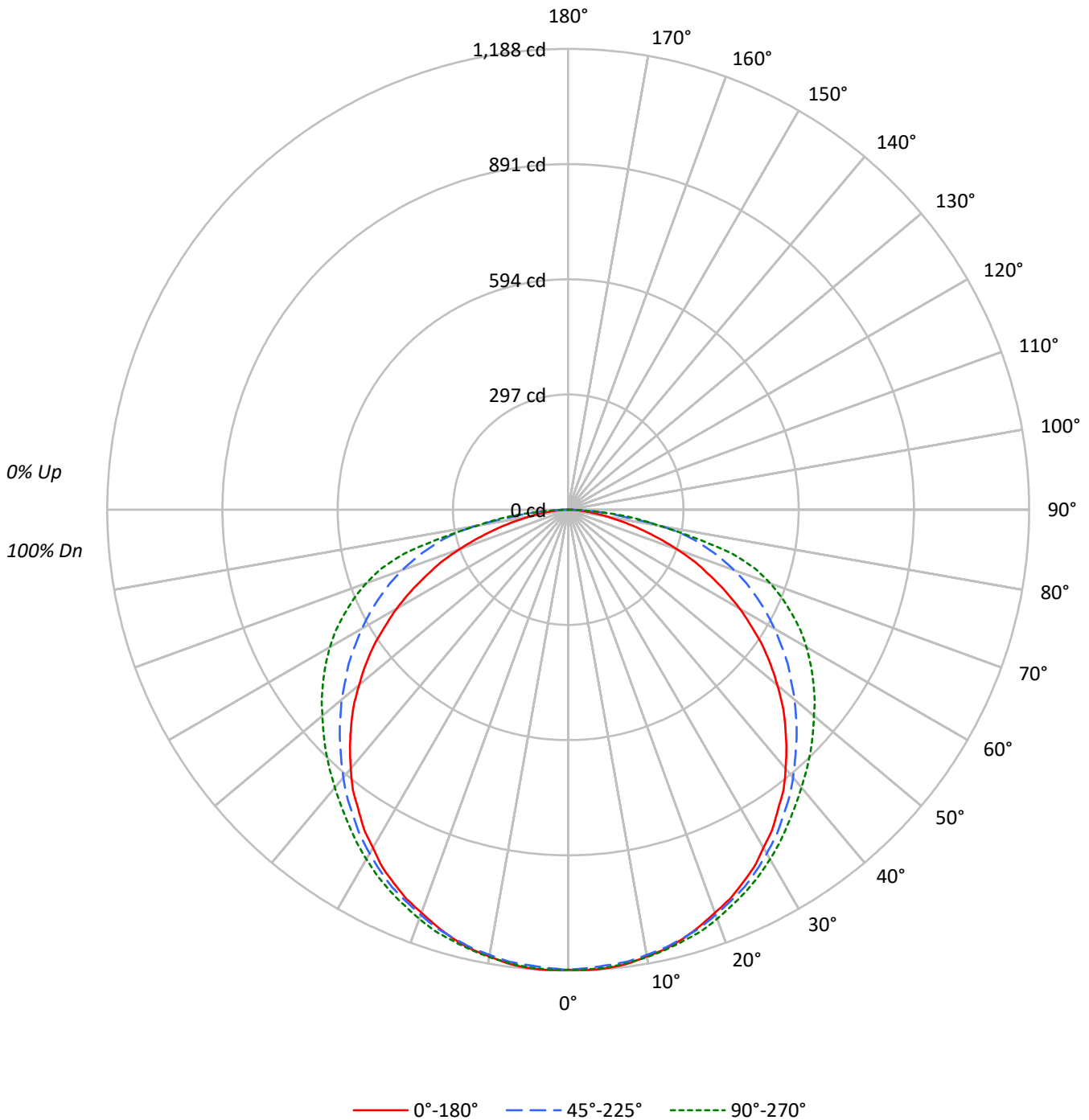
Input Watts (W): 42.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	1596	1596	1596
5°	1602	1592	1599
10°	1598	1592	1600
15°	1595	1592	1603
20°	1583	1591	1607
25°	1578	1594	1611
30°	1564	1590	1616
35°	1549	1586	1623
40°	1531	1584	1643
45°	1506	1584	1680
50°	1472	1594	1731
55°	1435	1619	1808
60°	1374	1651	1908
65°	1287	1709	2025
70°	1170	1788	2179
75°	992	1887	2276
80°	783	1899	1841
85°	577	1443	1618



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.5	3.0
10°-20°	323.8	8.6
20°-30°	495.2	13.1
30°-40°	605.3	16.0
40°-50°	645.2	17.1
50°-60°	616.9	16.4
60°-70°	522.6	13.9
70°-80°	351.2	9.3
80°-90°	99.1	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°	931.5	24.7
0°-40°	1536.8	40.7
0°-60°	2798.9	74.2
0°-90°	3771.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3771.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1186	1186	1186	1186	1186	
5°	1186	1184	1179	1184	1184	113
15°	1145	1145	1143	1152	1150	323
25°	1063	1066	1074	1083	1085	490
35°	943	950	965	984	988	591
45°	791	804	832	868	883	610
55°	612	634	690	745	771	545
65°	404	445	537	608	636	401
75°	191	260	363	425	438	204
85°	37	77	94	101	105	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1186.1	1186.1	1186.1	1186.1	1186.1
2.5°	1188.0	1188.0	1182.4	1186.1	1186.1
5°	1186.1	1184.2	1178.6	1184.2	1184.2
7.5°	1180.5	1178.6	1174.9	1180.5	1178.6
10°	1169.3	1169.3	1165.5	1171.1	1171.1
12.5°	1159.9	1158.0	1156.2	1163.6	1161.8
15°	1144.9	1144.9	1143.1	1152.4	1150.5
17.5°	1126.2	1128.1	1130.0	1137.5	1139.3
20°	1105.6	1109.4	1111.3	1122.5	1122.5
22.5°	1086.9	1088.8	1092.6	1103.8	1103.8
25°	1062.6	1066.4	1073.8	1083.2	1085.1
27.5°	1038.3	1040.2	1049.5	1062.6	1064.5
30°	1006.5	1012.1	1023.3	1038.3	1040.2
32.5°	978.4	984.0	997.1	1012.1	1015.8
35°	942.9	950.4	965.3	984.0	987.8
37.5°	911.1	916.7	935.4	956.0	961.6
40°	871.8	883.0	901.7	926.0	935.4
42.5°	832.5	843.7	866.2	898.0	909.2
45°	791.4	804.4	832.5	868.1	883.0
47.5°	750.2	765.2	797.0	838.1	855.0
50°	703.4	722.1	761.4	808.2	826.9
52.5°	658.5	681.0	724.0	776.4	800.7
55°	611.8	634.2	690.3	744.6	770.8
57.5°	559.4	589.3	651.0	712.8	740.8
60°	510.7	538.8	613.6	681.0	709.0
62.5°	458.3	495.8	576.2	647.3	675.4
65°	404.1	445.3	536.9	608.0	636.1
67.5°	355.5	400.4	497.6	568.7	596.8
70°	297.5	353.6	454.6	525.7	553.8
72.5°	243.2	304.9	409.7	478.9	505.1
75°	190.8	260.0	362.9	424.7	437.8
77.5°	142.2	215.1	314.3	340.5	331.1
80°	101.0	172.1	245.1	232.0	237.6
82.5°	65.5	131.0	151.5	172.1	177.7
85°	37.4	76.7	93.5	101.0	104.8
87.5°	16.8	28.1	37.4	37.4	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)