

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: P881197

Luminaire Tested: **24CZ2-45VHE-HRP-UNV-B35**

Issue Date: 10/2/2024

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: P881197  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P474369)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 10/2/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45VHE-HRP-UNV-B35  
Description: 2X4 4500 LUMEN CRUZE TROFFER WITH BIO UP LEDS AT 3500K CCT AND HRP LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

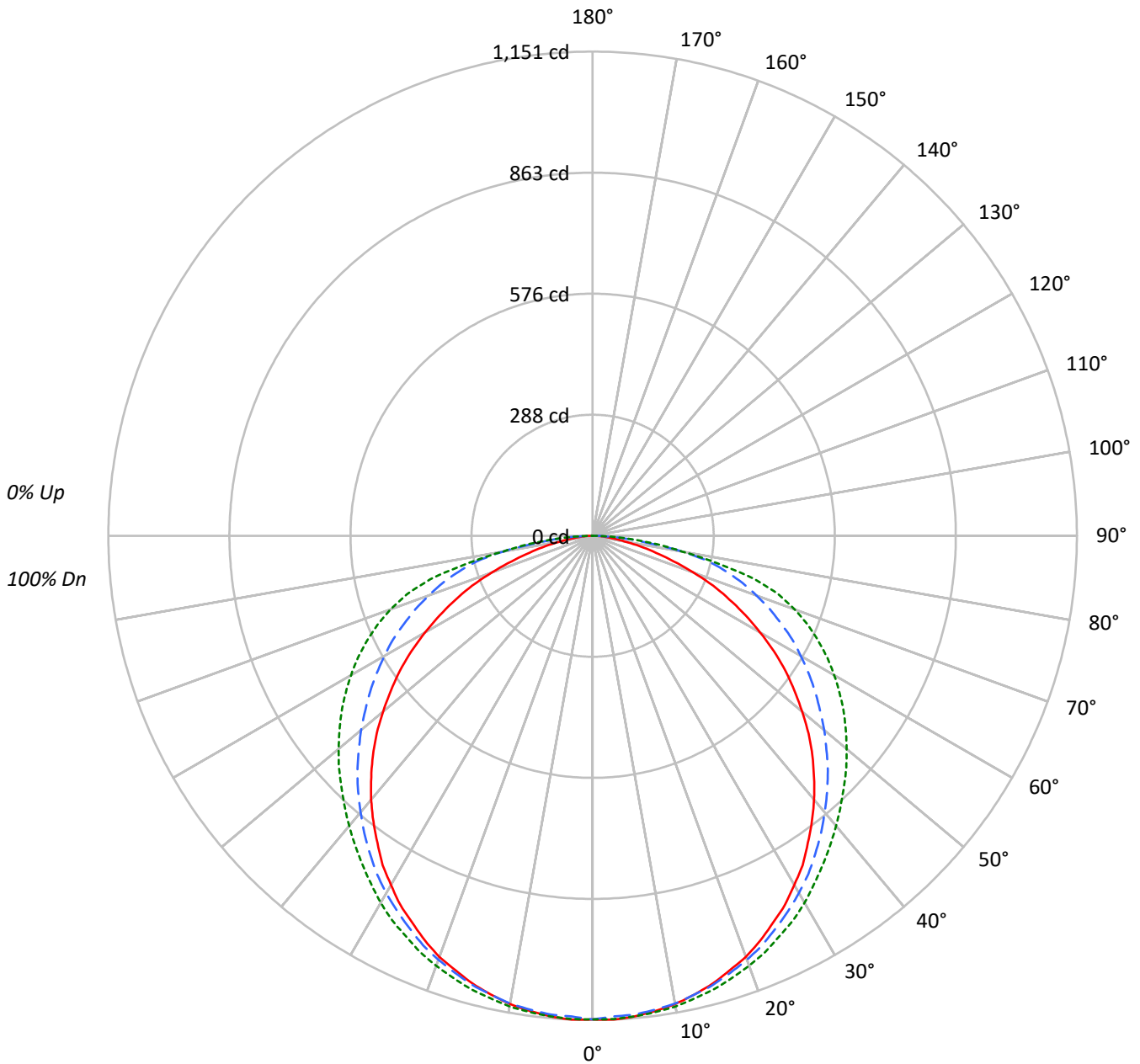
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3544.0 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 1.92' x L: 3.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 34  
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									
RC	80									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	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	101	96	93	96	93	90	92	90	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	59	68	63	58	56																			
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36																			
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31																			
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28																			
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25																			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23																			

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

	0°	45°	90°
0°	1623	1623	1623
5°	1625	1618	1625
10°	1620	1618	1629
15°	1611	1615	1630
20°	1600	1611	1633
25°	1580	1603	1636
30°	1562	1598	1642
35°	1536	1590	1644
40°	1509	1580	1659
45°	1475	1578	1685
50°	1427	1577	1730
55°	1376	1588	1793
60°	1298	1612	1872
65°	1199	1650	1977
70°	1047	1708	2106
75°	849	1796	2176
80°	627	1761	1761
85°	481	1297	1465



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.9	3.1
10°-20°	312.8	8.8
20°-30°	476.2	13.4
30°-40°	578.2	16.3
40°-50°	610.9	17.2
50°-60°	576.4	16.3
60°-70°	479.3	13.5
70°-80°	315.3	8.9
80°-90°	86.0	2.4
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°	897.9	25.3
0°-40°	1476.1	41.7
0°-60°	2663.4	75.2
0°-90°	3544.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3544.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1150	1150	1150	1150	1150	
5°	1147	1147	1142	1147	1147	109
15°	1102	1104	1105	1116	1116	311
25°	1015	1021	1030	1048	1050	468
35°	892	902	923	947	954	558
45°	739	754	791	829	844	569
55°	559	583	645	706	728	498
65°	359	401	494	567	592	355
75°	156	227	329	390	399	168
85°	30	65	80	89	90	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1149.8	1149.8	1149.8	1149.8	1149.8
2.5°	1151.3	1149.8	1143.9	1149.8	1149.8
5°	1146.9	1146.9	1142.4	1146.9	1146.9
7.5°	1139.5	1139.5	1136.4	1142.4	1142.4
10°	1130.5	1130.5	1129.1	1136.4	1136.4
12.5°	1117.2	1118.6	1117.2	1126.0	1126.0
15°	1102.3	1103.8	1105.4	1115.8	1115.8
17.5°	1083.2	1086.1	1089.0	1100.9	1102.3
20°	1065.3	1066.6	1072.6	1086.1	1087.6
22.5°	1041.6	1046.0	1053.5	1066.6	1071.3
25°	1014.7	1020.7	1029.6	1047.5	1050.4
27.5°	989.6	994.1	1006.0	1025.3	1031.3
30°	958.4	965.9	980.7	1000.0	1007.4
32.5°	928.7	936.2	954.0	974.7	980.7
35°	891.7	902.1	922.7	946.6	954.0
37.5°	856.1	866.4	891.7	918.4	927.4
40°	818.9	830.8	857.7	888.7	900.5
42.5°	778.9	795.2	824.9	859.0	872.4
45°	738.8	753.7	790.7	829.3	844.2
47.5°	695.9	713.8	753.7	799.8	817.6
50°	649.9	672.1	718.2	768.5	787.9
52.5°	604.0	629.1	681.0	737.3	758.2
55°	559.4	583.0	645.3	706.3	728.5
57.5°	510.4	540.2	608.3	673.6	695.9
60°	459.9	492.7	571.2	639.3	663.2
62.5°	409.5	446.6	535.5	604.0	629.1
65°	359.0	400.7	494.1	566.8	592.1
67.5°	310.0	356.1	455.5	528.2	553.4
70°	253.7	311.6	413.8	485.2	510.4
72.5°	201.8	268.6	373.8	440.8	463.0
75°	155.7	227.1	329.3	390.2	399.1
77.5°	114.2	185.4	283.4	304.0	305.6
80°	77.2	148.3	216.7	213.7	216.7
82.5°	50.5	111.3	136.4	152.8	154.3
85°	29.7	65.4	80.1	89.1	90.5
87.5°	14.8	22.2	28.2	29.7	32.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-50001EG







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)