

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: P276394

Luminaire Tested: **24CZ2-35HE-S-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

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: P276394  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-35HE-S-UNV-L93050-W2A1-U-4000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3211.0 lumens  
Efficiency: N/A  
Efficacy: 129.4 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

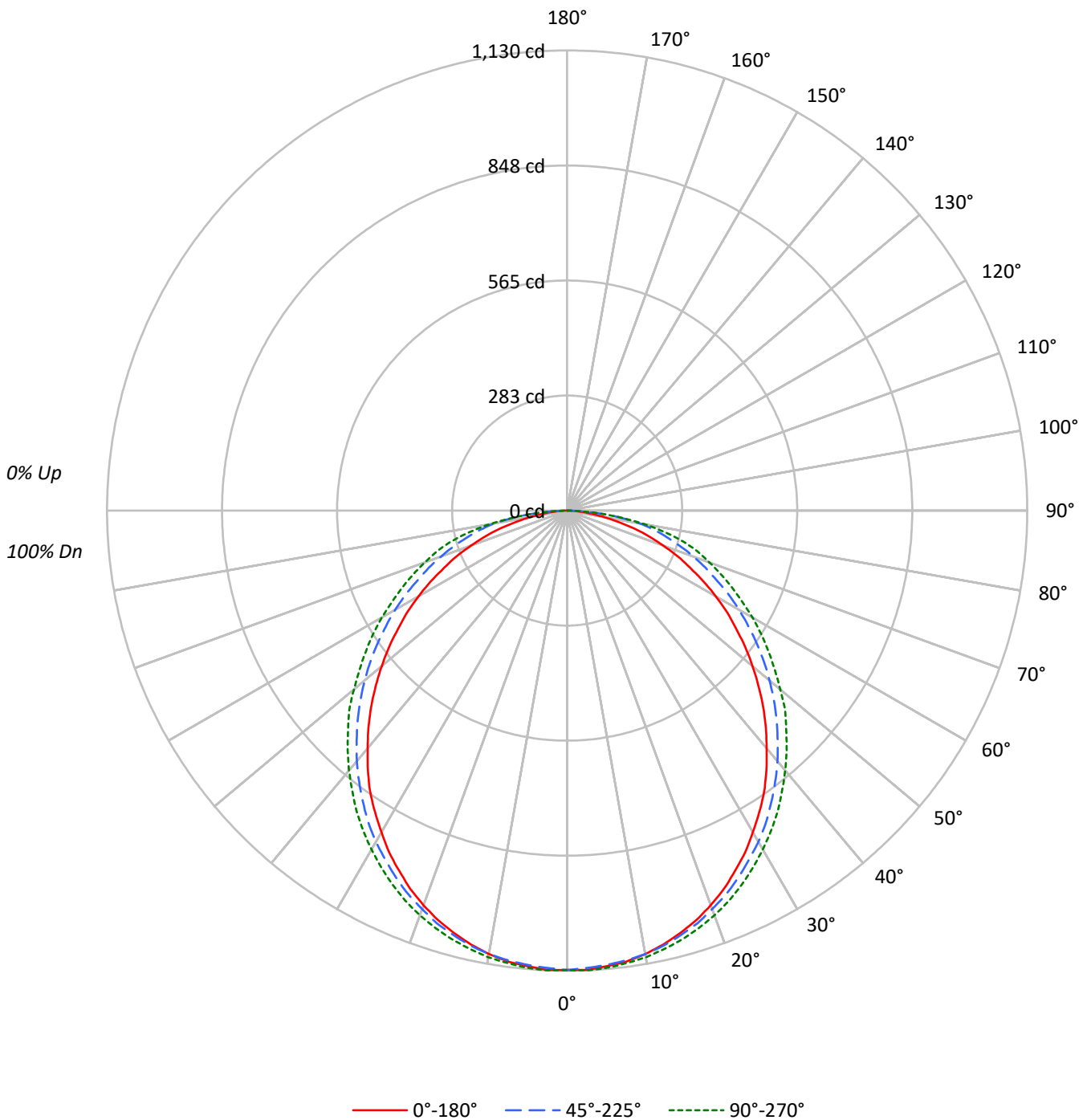
Input Watts (W): 24.80868  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P276394

CATALOG NUMBER: 24CZ2-35HE-S-UNV-L93050-W2A1-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P276394

CATALOG NUMBER: 24CZ2-35HE-S-UNV-L93050-W2A1-U-4000K

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

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

	0°	45°	90°
0°	1518	1518	1518
5°	1517	1513	1522
10°	1511	1511	1522
15°	1496	1503	1519
20°	1477	1491	1514
25°	1449	1476	1505
30°	1417	1459	1493
35°	1385	1436	1481
40°	1338	1412	1464
45°	1294	1384	1448
50°	1245	1358	1430
55°	1189	1333	1416
60°	1133	1312	1414
65°	1062	1289	1422
70°	983	1296	1461
75°	880	1320	1543
80°	711	1399	1509
85°	536	1229	1196



TEST NUMBER: P276394

CATALOG NUMBER: 24CZ2-35HE-S-UNV-L93050-W2A1-U-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.8	3.3
10°-20°	305.2	9.5
20°-30°	458.7	14.3
30°-40°	546.4	17.0
40°-50°	559.2	17.4
50°-60°	503.5	15.7
60°-70°	395.4	12.3
70°-80°	256.6	8.0
80°-90°	79.4	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°	870.6	27.1
0°-40°	1417.0	44.1
0°-60°	2479.7	77.2
0°-90°	3211.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3211.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1123	1125	1120	1126	1127	107
15°	1074	1077	1079	1088	1090	303
25°	976	984	994	1011	1014	450
35°	844	854	874	896	902	526
45°	680	697	727	755	761	524
55°	507	529	568	598	604	454
65°	334	359	405	439	447	332
75°	169	202	254	289	297	179
85°	35	64	80	78	78	42
90°	0	0	0	0	0	



TEST NUMBER: P276394

CATALOG NUMBER: 24CZ2-35HE-S-UNV-L93050-W2A1-U-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1128.1	1128.1	1128.1	1128.1	<i>1128.1</i>
2.5°	<i>1129.1</i>	<i>1129.1</i>	<i>1124.0</i>	<i>1129.1</i>	<i>1130.1</i>
5°	1123.0	1125.0	1119.9	1126.0	<i>1127.0</i>
7.5°	1116.8	1116.8	1113.8	1119.9	<i>1120.9</i>
10°	1105.6	1106.6	1105.6	1112.8	<i>1113.8</i>
12.5°	1091.3	1093.4	1094.4	1101.5	<i>1102.6</i>
15°	1074.0	1077.1	1079.1	1088.3	<i>1090.3</i>
17.5°	1054.6	1057.7	1062.8	1073.0	<i>1075.0</i>
20°	1031.2	1035.2	1041.4	1054.6	<i>1057.7</i>
22.5°	1005.7	1009.7	1019.9	1032.2	<i>1037.3</i>
25°	976.1	984.2	994.4	1010.8	<i>1013.8</i>
27.5°	946.5	953.6	966.9	984.2	<i>988.3</i>
30°	911.8	923.1	939.4	956.7	<i>960.8</i>
32.5°	878.2	889.4	908.8	927.1	<i>932.2</i>
35°	843.5	853.7	874.1	895.5	<i>901.6</i>
37.5°	803.7	817.0	839.4	860.8	<i>867.0</i>
40°	761.9	778.2	803.7	826.2	<i>833.3</i>
42.5°	722.1	739.5	765.0	789.4	<i>797.6</i>
45°	680.3	696.6	727.2	754.8	<i>760.9</i>
47.5°	637.5	655.8	688.5	716.0	<i>726.2</i>
50°	594.6	614.0	648.7	677.2	<i>683.4</i>
52.5°	551.8	572.2	608.9	639.5	<i>642.6</i>
55°	506.9	529.4	568.1	597.7	<i>603.8</i>
57.5°	466.1	485.5	527.3	557.9	<i>565.0</i>
60°	421.2	442.7	487.5	516.1	<i>525.3</i>
62.5°	378.4	400.8	447.8	476.3	<i>484.5</i>
65°	333.5	359.0	404.9	438.6	<i>446.7</i>
67.5°	294.8	319.2	368.2	400.8	<i>409.0</i>
70°	249.9	277.4	329.4	363.1	<i>371.3</i>
72.5°	211.1	239.7	291.7	324.3	<i>336.6</i>
75°	169.3	201.9	254.0	288.6	<i>296.8</i>
77.5°	128.5	166.3	219.3	245.8	<i>245.8</i>
80°	91.8	131.6	180.5	192.8	<i>194.8</i>
82.5°	60.2	98.9	133.6	132.6	<i>132.6</i>
85°	34.7	64.3	79.6	77.5	<i>77.5</i>
87.5°	13.3	26.5	28.6	28.6	<i>27.5</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)