

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: P276398

Luminaire Tested: **24CZ2-40HE-S-UNV-L93050-W2A1-U-3500K**

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: P276398
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: 24CZ2-40HE-S-UNV-L93050-W2A1-U-3500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3441.3 lumens
Efficiency: N/A
Efficacy: 119.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

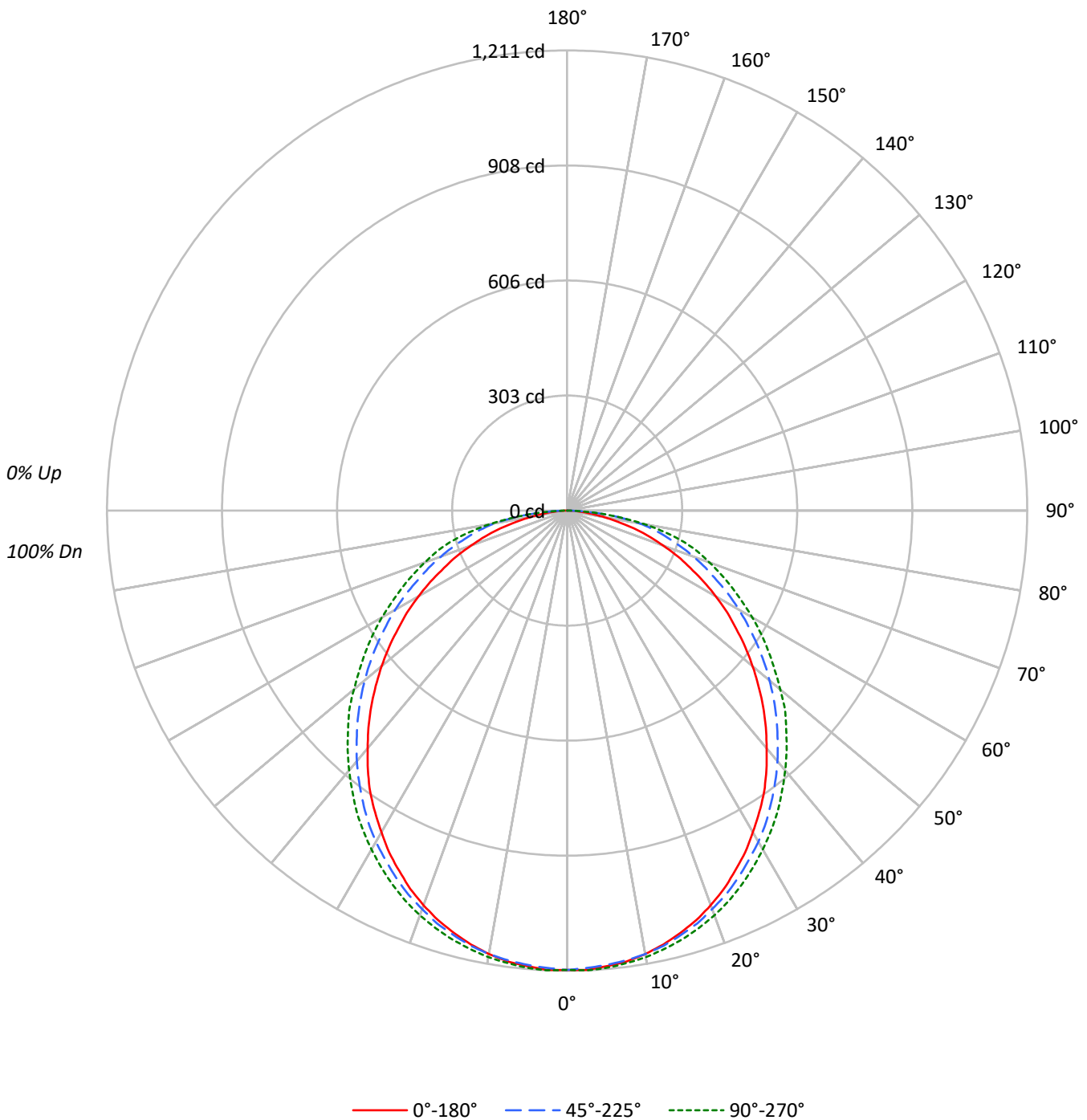
Input Watts (W): 28.809168
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P276398

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L93050-W2A1-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P276398

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L93050-W2A1-U-3500K

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°	1627	1627	1627
5°	1625	1621	1631
10°	1619	1619	1631
15°	1603	1611	1628
20°	1582	1598	1623
25°	1553	1582	1613
30°	1518	1564	1600
35°	1485	1539	1587
40°	1434	1513	1568
45°	1387	1483	1552
50°	1334	1455	1533
55°	1274	1428	1518
60°	1215	1406	1515
65°	1138	1381	1524
70°	1054	1389	1565
75°	943	1415	1654
80°	762	1499	1618
85°	574	1317	1283



TEST NUMBER: P276398

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L93050-W2A1-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.5	3.3
10°-20°	327.0	9.5
20°-30°	491.6	14.3
30°-40°	585.6	17.0
40°-50°	599.3	17.4
50°-60°	539.5	15.7
60°-70°	423.7	12.3
70°-80°	275.0	8.0
80°-90°	85.1	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°	933.1	27.1
0°-40°	1518.6	44.1
0°-60°	2657.5	77.2
0°-90°	3441.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3441.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1209	1209	1209	1209	1209	
5°	1204	1206	1200	1207	1208	114
15°	1151	1154	1156	1166	1168	325
25°	1046	1055	1066	1083	1086	482
35°	904	915	937	960	966	564
45°	729	747	779	809	815	562
55°	543	567	609	640	647	487
65°	357	385	434	470	479	356
75°	181	216	272	309	318	192
85°	37	69	85	83	83	45
90°	0	0	0	0	0	



TEST NUMBER: P276398

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L93050-W2A1-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1208.9	1208.9	1208.9	1208.9	1208.9
2.5°	1210.0	1210.0	1204.6	1210.0	1211.1
5°	1203.5	1205.7	1200.2	1206.8	1207.8
7.5°	1196.9	1196.9	1193.6	1200.2	1201.3
10°	1184.9	1186.0	1184.9	1192.5	1193.6
12.5°	1169.6	1171.8	1172.9	1180.5	1181.6
15°	1151.0	1154.3	1156.5	1166.3	1168.5
17.5°	1130.2	1133.5	1139.0	1149.9	1152.1
20°	1105.1	1109.5	1116.0	1130.2	1133.5
22.5°	1077.8	1082.1	1093.1	1106.2	1111.7
25°	1046.1	1054.8	1065.7	1083.2	1086.5
27.5°	1014.4	1022.0	1036.2	1054.8	1059.2
30°	977.2	989.2	1006.7	1025.3	1029.7
32.5°	941.1	953.2	973.9	993.6	999.1
35°	904.0	914.9	936.8	959.7	966.3
37.5°	861.3	875.5	899.6	922.6	929.1
40°	816.5	834.0	861.3	885.4	893.0
42.5°	773.9	792.5	819.8	846.0	854.8
45°	729.1	746.6	779.4	808.9	815.4
47.5°	683.2	702.8	737.8	767.3	778.3
50°	637.3	658.0	695.2	725.8	732.4
52.5°	591.4	613.2	652.6	685.4	688.6
55°	543.3	567.3	608.8	640.5	647.1
57.5°	499.5	520.3	565.1	597.9	605.6
60°	451.4	474.4	522.5	553.1	562.9
62.5°	405.5	429.6	479.9	510.5	519.2
65°	357.4	384.8	433.9	470.0	478.8
67.5°	315.9	342.1	394.6	429.6	438.3
70°	267.8	297.3	353.1	389.1	397.9
72.5°	226.3	256.9	312.6	347.6	360.7
75°	181.4	216.4	272.2	309.3	318.1
77.5°	137.7	178.2	235.0	263.4	263.4
80°	98.4	141.0	193.5	206.6	208.8
82.5°	64.5	106.0	143.2	142.1	142.1
85°	37.2	68.9	85.3	83.1	83.1
87.5°	14.2	28.4	30.6	30.6	29.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)