

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: P276402

Luminaire Tested: **24CZ2-45HE-S-UNV-L93050-W2A1-U-3000K**

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: P276402
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: 24CZ2-45HE-S-UNV-L93050-W2A1-U-3000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3468.4 lumens
Efficiency: N/A
Efficacy: 107.9 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

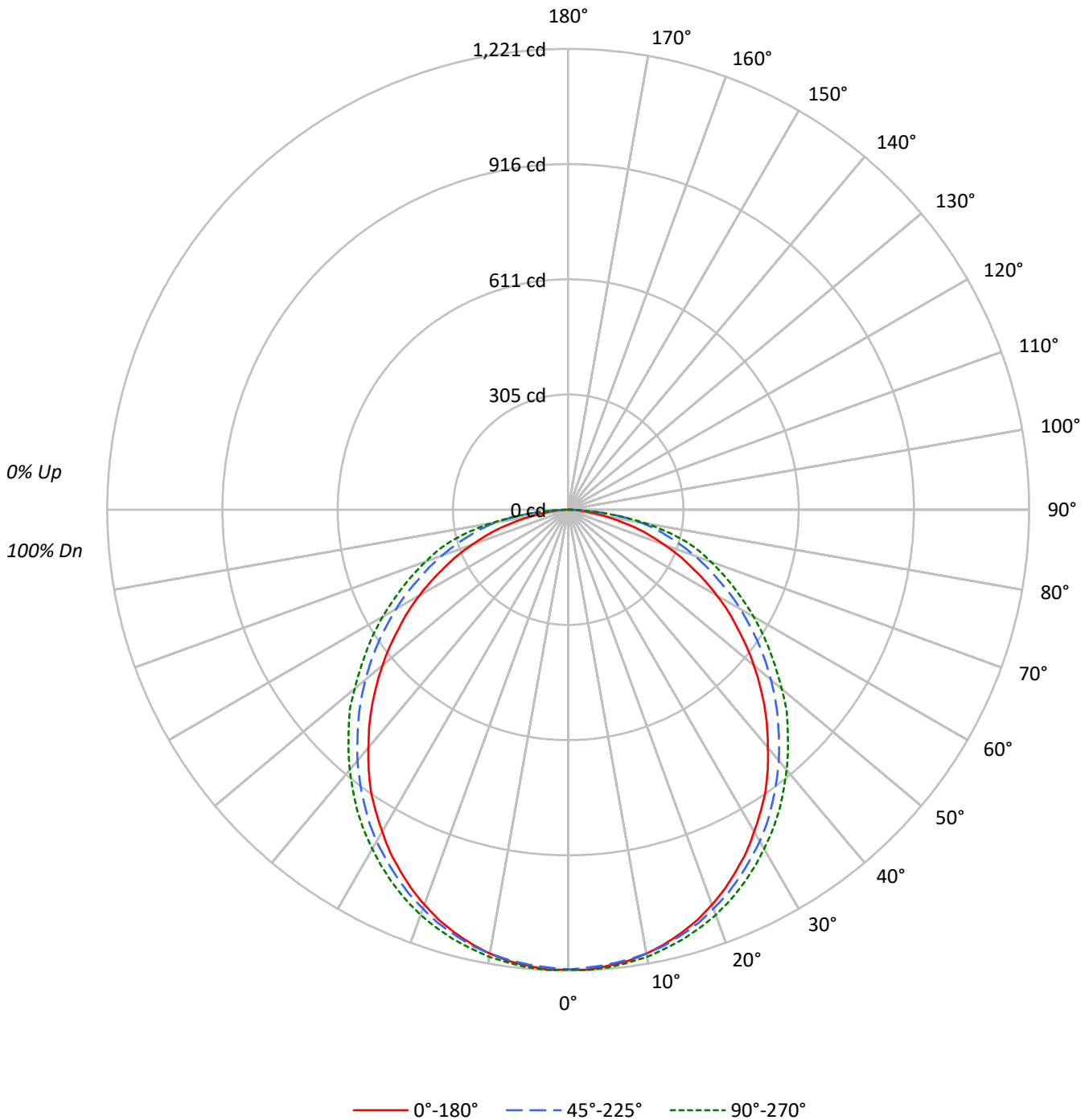
Input Watts (W): 32.156982
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1639	1639	1639
5°	1638	1634	1644
10°	1632	1632	1644
15°	1616	1624	1640
20°	1595	1611	1636
25°	1565	1595	1626
30°	1530	1576	1612
35°	1497	1551	1600
40°	1446	1525	1581
45°	1398	1495	1564
50°	1344	1467	1545
55°	1284	1439	1530
60°	1224	1417	1527
65°	1147	1393	1536
70°	1062	1400	1578
75°	951	1426	1667
80°	769	1511	1630
85°	579	1326	1292



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.4	3.3
10°-20°	329.6	9.5
20°-30°	495.5	14.3
30°-40°	590.2	17.0
40°-50°	604.0	17.4
50°-60°	543.8	15.7
60°-70°	427.1	12.3
70°-80°	277.2	8.0
80°-90°	85.7	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°	940.4	27.1
0°-40°	1530.6	44.1
0°-60°	2678.4	77.2
0°-90°	3468.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3468.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1218	1218	1218	1218	1218	
5°	1213	1215	1210	1216	1217	115
15°	1160	1163	1166	1176	1178	327
25°	1054	1063	1074	1092	1095	486
35°	911	922	944	967	974	568
45°	735	752	786	815	822	567
55°	548	572	614	646	652	491
65°	360	388	437	474	482	359
75°	183	218	274	312	321	194
85°	38	69	86	84	84	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1218.5	1218.5	1218.5	1218.5	1218.5
2.5°	1219.6	1219.6	1214.1	1219.6	1220.7
5°	1213.0	1215.2	1209.6	1216.3	1217.4
7.5°	1206.3	1206.3	1203.0	1209.6	1210.8
10°	1194.2	1195.3	1194.2	1201.9	1203.0
12.5°	1178.8	1181.0	1182.1	1189.8	1190.9
15°	1160.1	1163.4	1165.6	1175.5	1177.7
17.5°	1139.1	1142.4	1148.0	1159.0	1161.2
20°	1113.8	1118.2	1124.8	1139.1	1142.4
22.5°	1086.3	1090.7	1101.7	1114.9	1120.4
25°	1054.3	1063.1	1074.1	1091.8	1095.1
27.5°	1022.4	1030.1	1044.4	1063.1	1067.5
30°	984.9	997.0	1014.7	1033.4	1037.8
32.5°	948.5	960.7	981.6	1001.4	1006.9
35°	911.1	922.1	944.1	967.3	973.9
37.5°	868.1	882.4	906.7	929.8	936.4
40°	823.0	840.6	868.1	892.4	900.1
42.5°	780.0	798.7	826.3	852.7	861.5
45°	734.8	752.5	785.5	815.2	821.9
47.5°	688.6	708.4	743.6	773.4	784.4
50°	642.3	663.2	700.7	731.5	738.1
52.5°	596.0	618.0	657.7	690.8	694.1
55°	547.5	571.8	613.6	645.6	652.2
57.5°	503.5	524.4	569.6	602.6	610.3
60°	455.0	478.1	526.6	557.5	567.4
62.5°	408.7	433.0	483.6	514.5	523.3
65°	360.3	387.8	437.4	473.7	482.5
67.5°	318.4	344.8	397.7	433.0	441.8
70°	269.9	299.7	355.8	392.2	401.0
72.5°	228.0	258.9	315.1	350.3	363.6
75°	182.9	218.1	274.3	311.8	320.6
77.5°	138.8	179.6	236.9	265.5	265.5
80°	99.2	142.1	195.0	208.2	210.4
82.5°	65.0	106.9	144.3	143.2	143.2
85°	37.5	69.4	85.9	83.7	83.7
87.5°	14.3	28.6	30.8	30.8	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)