

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: P276653

Luminaire Tested: **24CZ2-60HE-S-UNV-L92765-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: P276653
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: 24CZ2-60HE-S-UNV-L92765-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: 5130.0 lumens
Efficiency: N/A
Efficacy: 115.6 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

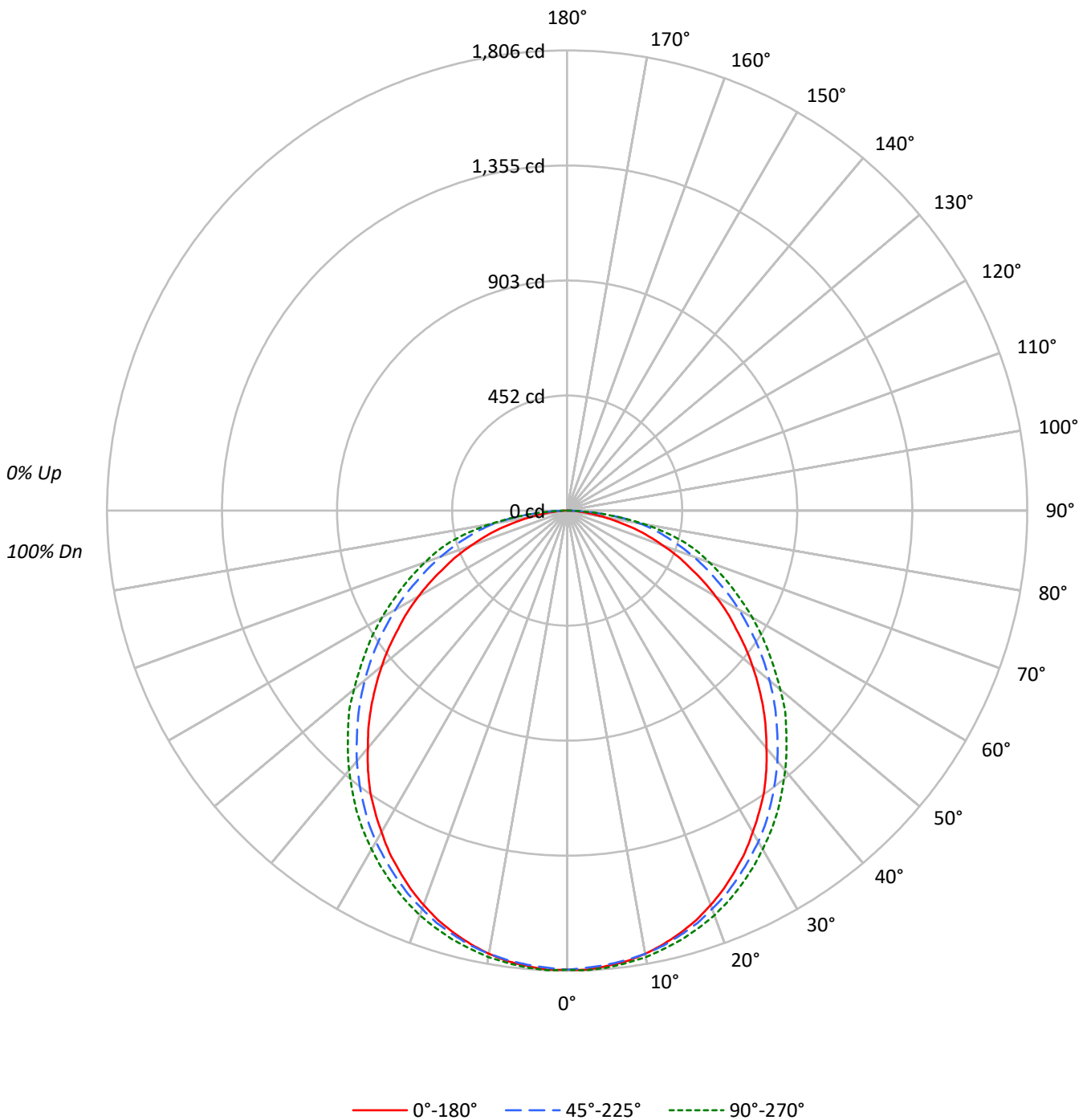
Input Watts (W): 44.361
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2425	2425	2425
5°	2423	2417	2432
10°	2413	2413	2431
15°	2390	2401	2426
20°	2359	2382	2420
25°	2315	2359	2405
30°	2263	2332	2385
35°	2213	2294	2366
40°	2138	2255	2338
45°	2068	2211	2313
50°	1989	2169	2285
55°	1900	2129	2263
60°	1811	2096	2258
65°	1696	2060	2272
70°	1570	2070	2333
75°	1406	2109	2465
80°	1137	2235	2411
85°	855	1962	1911



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.6	3.3
10°-20°	487.5	9.5
20°-30°	732.8	14.3
30°-40°	872.9	17.0
40°-50°	893.4	17.4
50°-60°	804.3	15.7
60°-70°	631.6	12.3
70°-80°	409.9	8.0
80°-90°	126.8	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°	1391.0	27.1
0°-40°	2263.9	44.1
0°-60°	3961.6	77.2
0°-90°	5130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1802	1802	1802	1802	1802	
5°	1794	1797	1789	1799	1801	170
15°	1716	1721	1724	1739	1742	484
25°	1559	1572	1589	1615	1620	718
35°	1348	1364	1396	1431	1440	841
45°	1087	1113	1162	1206	1216	838
55°	810	846	908	955	965	726
65°	533	574	647	701	714	530
75°	270	323	406	461	474	286
85°	55	103	127	124	124	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1802.2	1802.2	1802.2	1802.2	1802.2
2.5°	1803.8	1803.8	1795.7	1803.8	1805.5
5°	1794.1	1797.3	1789.2	1798.9	1800.6
7.5°	1784.3	1784.3	1779.4	1789.2	1790.8
10°	1766.4	1768.0	1766.4	1777.8	1779.4
12.5°	1743.5	1746.8	1748.4	1759.8	1761.5
15°	1715.8	1720.7	1724.0	1738.7	1741.9
17.5°	1684.9	1689.8	1697.9	1714.2	1717.5
20°	1647.4	1653.9	1663.7	1684.9	1689.8
22.5°	1606.7	1613.2	1629.5	1649.0	1657.2
25°	1559.4	1572.4	1588.7	1614.8	1619.7
27.5°	1512.2	1523.6	1544.7	1572.4	1579.0
30°	1456.8	1474.7	1500.8	1528.5	1535.0
32.5°	1403.0	1420.9	1451.9	1481.2	1489.3
35°	1347.6	1363.9	1396.5	1430.7	1440.5
37.5°	1284.0	1305.2	1341.1	1375.3	1385.1
40°	1217.2	1243.3	1284.0	1319.9	1331.3
42.5°	1153.7	1181.4	1222.1	1261.2	1274.3
45°	1086.9	1112.9	1161.8	1205.8	1215.6
47.5°	1018.4	1047.8	1099.9	1143.9	1160.2
50°	950.0	980.9	1036.3	1082.0	1091.8
52.5°	881.5	914.1	972.8	1021.7	1026.6
55°	809.9	845.7	907.6	954.9	964.7
57.5°	744.7	775.6	842.4	891.3	902.7
60°	673.0	707.2	778.9	824.5	839.2
62.5°	604.5	640.4	715.3	761.0	774.0
65°	532.8	573.6	646.9	700.7	713.7
67.5°	470.9	510.0	588.2	640.4	653.4
70°	399.2	443.2	526.3	580.1	593.1
72.5°	337.3	382.9	466.0	518.2	537.7
75°	270.5	322.6	405.7	461.1	474.2
77.5°	205.3	265.6	350.3	392.7	392.7
80°	146.7	210.2	288.4	308.0	311.2
82.5°	96.1	158.1	213.5	211.8	211.8
85°	55.4	102.7	127.1	123.8	123.8
87.5°	21.2	42.4	45.6	45.6	44.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)