

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: P276632

Luminaire Tested: **24CZ2-45HE-S-UNV-L92765-W2A1-U-6500K**

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: P276632
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-L92765-W2A1-U-6500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 6500K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4231.4 lumens
Efficiency: N/A
Efficacy: 128.5 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

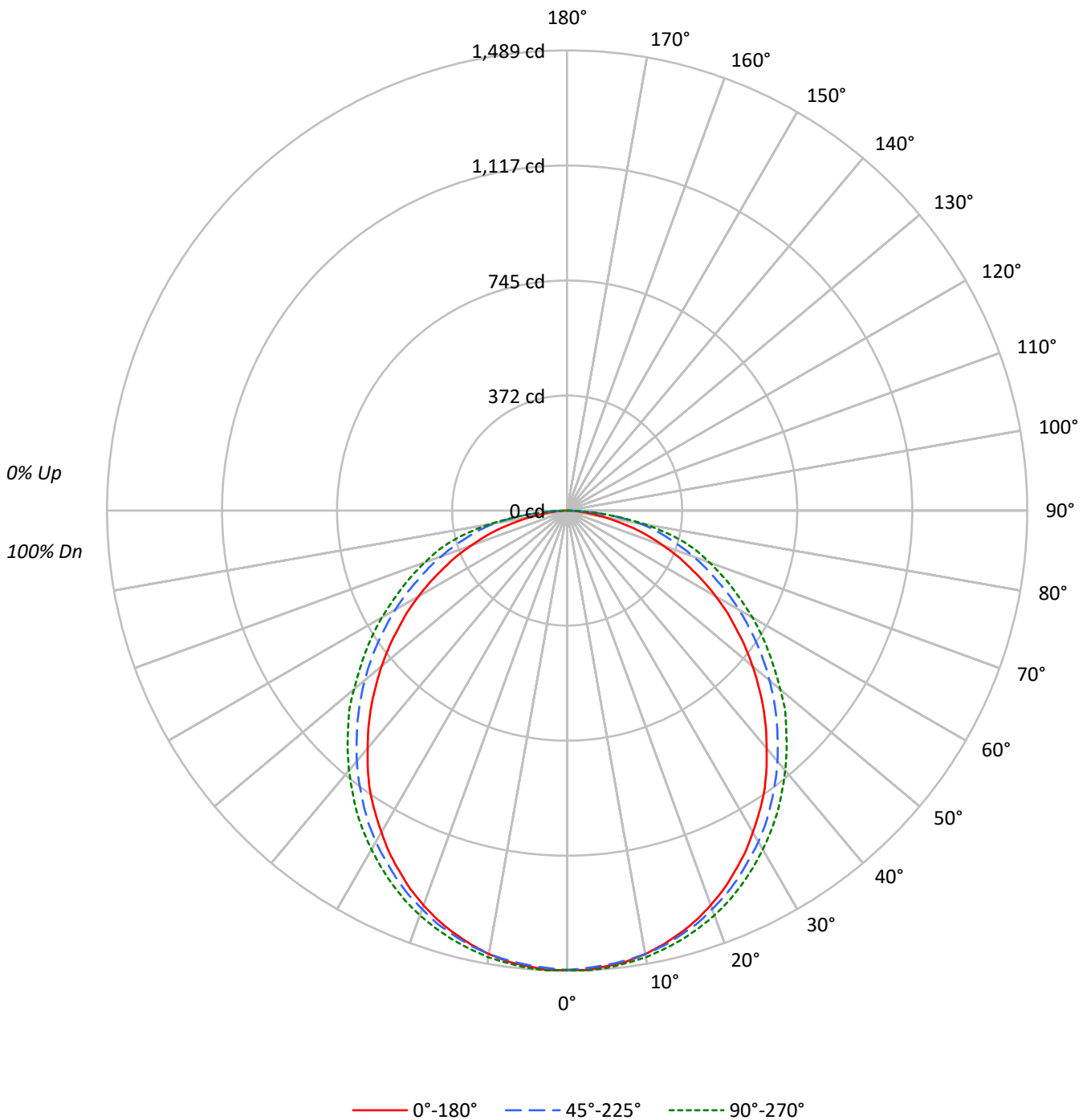
Input Watts (W): 32.922
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2000	2000	2000
5°	1999	1993	2006
10°	1991	1991	2005
15°	1971	1981	2001
20°	1946	1965	1996
25°	1910	1946	1983
30°	1867	1923	1967
35°	1826	1892	1952
40°	1763	1860	1929
45°	1706	1823	1908
50°	1640	1789	1885
55°	1567	1756	1867
60°	1494	1729	1863
65°	1399	1699	1874
70°	1295	1708	1924
75°	1160	1740	2033
80°	938	1843	1989
85°	706	1618	1576



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.7	3.3
10°-20°	402.1	9.5
20°-30°	604.5	14.3
30°-40°	720.0	17.0
40°-50°	736.9	17.4
50°-60°	663.4	15.7
60°-70°	521.0	12.3
70°-80°	338.1	8.0
80°-90°	104.6	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°	1147.3	27.1
0°-40°	1867.4	44.1
0°-60°	3267.7	77.2
0°-90°	4231.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4231.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1486	1486	1486	1486	1486	
5°	1480	1482	1476	1484	1485	141
15°	1415	1419	1422	1434	1437	399
25°	1286	1297	1310	1332	1336	593
35°	1112	1125	1152	1180	1188	693
45°	896	918	958	995	1003	691
55°	668	698	749	788	796	599
65°	440	473	534	578	589	437
75°	223	266	335	380	391	236
85°	46	85	105	102	102	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1486.5	1486.5	1486.5	1486.5	1486.5
2.5°	1487.9	1487.9	1481.2	1487.9	1489.2
5°	1479.8	1482.5	1475.8	1483.8	1485.2
7.5°	1471.7	1471.7	1467.7	1475.8	1477.1
10°	1457.0	1458.3	1457.0	1466.4	1467.7
12.5°	1438.1	1440.8	1442.2	1451.6	1452.9
15°	1415.3	1419.3	1422.0	1434.1	1436.8
17.5°	1389.8	1393.8	1400.5	1414.0	1416.6
20°	1358.8	1364.2	1372.3	1389.8	1393.8
22.5°	1325.2	1330.6	1344.1	1360.2	1366.9
25°	1286.3	1297.0	1310.5	1332.0	1336.0
27.5°	1247.3	1256.7	1274.2	1297.0	1302.4
30°	1201.6	1216.4	1237.9	1260.7	1266.1
32.5°	1157.2	1172.0	1197.6	1221.8	1228.5
35°	1111.5	1125.0	1151.9	1180.1	1188.1
37.5°	1059.1	1076.6	1106.2	1134.4	1142.5
40°	1004.0	1025.5	1059.1	1088.7	1098.1
42.5°	951.6	974.4	1008.0	1040.3	1051.1
45°	896.5	918.0	958.3	994.6	1002.7
47.5°	840.0	864.2	907.2	943.5	957.0
50°	783.6	809.1	854.8	892.5	900.5
52.5°	727.1	754.0	802.4	842.7	846.8
55°	668.0	697.6	748.6	787.6	795.7
57.5°	614.2	639.8	694.9	735.2	744.6
60°	555.1	583.3	642.5	680.1	692.2
62.5°	498.6	528.2	590.0	627.7	638.4
65°	439.5	473.1	533.6	577.9	588.7
67.5°	388.4	420.7	485.2	528.2	539.0
70°	329.3	365.6	434.1	478.5	489.2
72.5°	278.2	315.9	384.4	427.4	443.5
75°	223.1	266.1	334.7	380.4	391.1
77.5°	169.4	219.1	289.0	323.9	323.9
80°	121.0	173.4	237.9	254.0	256.7
82.5°	79.3	130.4	176.1	174.7	174.7
85°	45.7	84.7	104.8	102.1	102.1
87.5°	17.5	34.9	37.6	37.6	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)