

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: P276652

Luminaire Tested: **24CZ2-60HE-S-UNV-L92765-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: P276652
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-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: 4885.5 lumens
Efficiency: N/A
Efficacy: 111.3 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

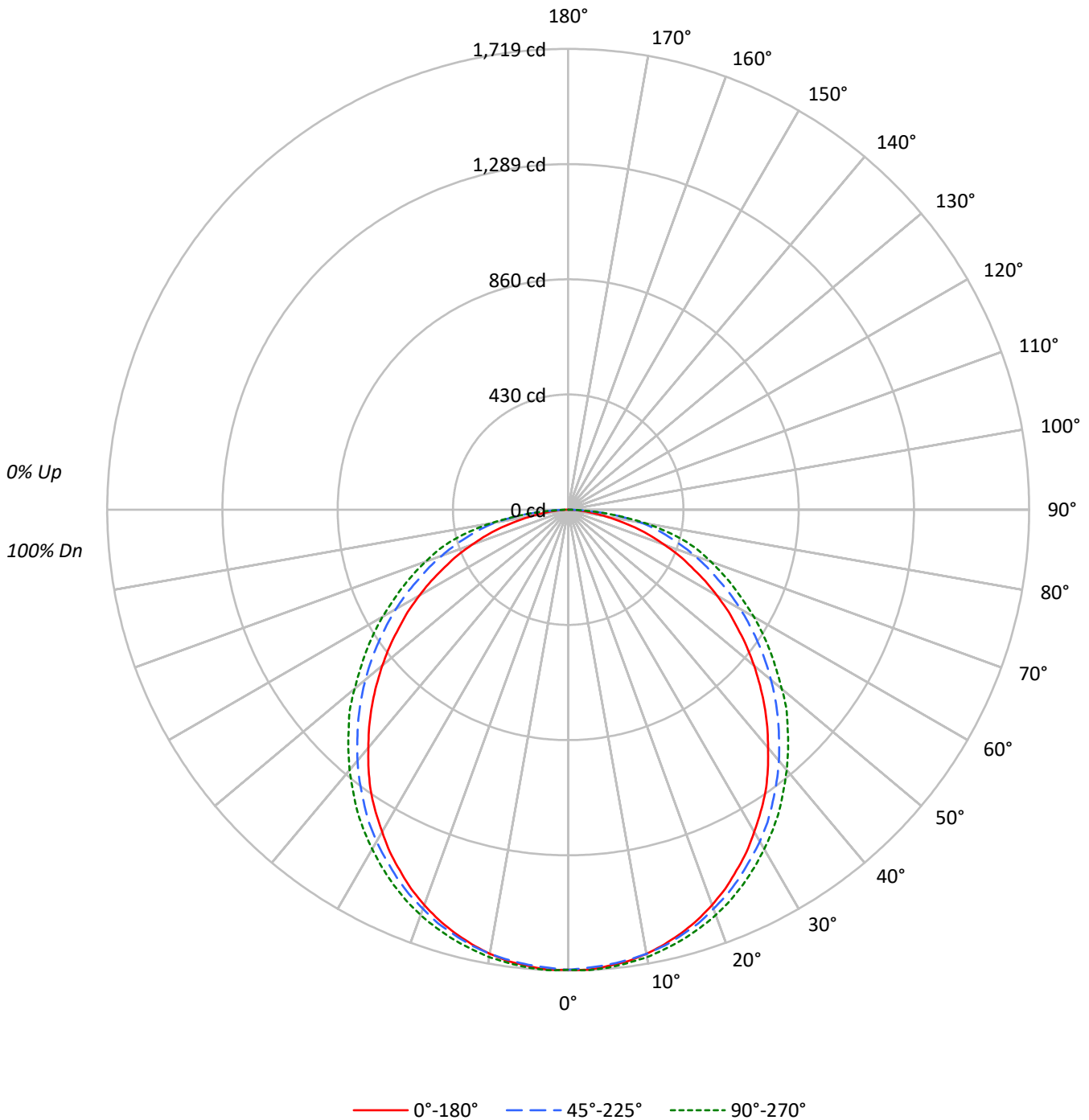
Input Watts (W): 43.896
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2309	2309	2309
5°	2308	2301	2316
10°	2298	2298	2315
15°	2276	2287	2311
20°	2246	2269	2304
25°	2205	2246	2290
30°	2155	2220	2271
35°	2108	2184	2253
40°	2036	2148	2227
45°	1970	2105	2203
50°	1894	2066	2176
55°	1809	2028	2155
60°	1725	1996	2151
65°	1615	1961	2164
70°	1496	1972	2222
75°	1339	2009	2348
80°	1082	2128	2297
85°	815	1868	1820



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	3.3
10°-20°	464.3	9.5
20°-30°	697.9	14.3
30°-40°	831.3	17.0
40°-50°	850.8	17.4
50°-60°	766.0	15.7
60°-70°	601.5	12.3
70°-80°	390.4	8.0
80°-90°	120.7	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°	1324.7	27.1
0°-40°	2156.0	44.1
0°-60°	3772.8	77.2
0°-90°	4885.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4885.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1708	1712	1704	1713	1715	162
15°	1634	1639	1642	1656	1659	461
25°	1485	1498	1513	1538	1542	684
35°	1283	1299	1330	1362	1372	801
45°	1035	1060	1106	1148	1158	798
55°	771	805	864	909	919	691
65°	507	546	616	667	680	505
75°	258	307	386	439	452	273
85°	53	98	121	118	118	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1716.3	1716.3	1716.3	1716.3	1716.3
2.5°	1717.9	1717.9	1710.1	1717.9	1719.4
5°	1708.5	1711.6	1703.9	1713.2	1714.8
7.5°	1699.2	1699.2	1694.6	1703.9	1705.4
10°	1682.2	1683.7	1682.2	1693.0	1694.6
12.5°	1660.4	1663.5	1665.1	1676.0	1677.5
15°	1634.1	1638.7	1641.8	1655.8	1658.9
17.5°	1604.6	1609.2	1617.0	1632.5	1635.6
20°	1568.9	1575.1	1584.4	1604.6	1609.2
22.5°	1530.1	1536.3	1551.8	1570.4	1578.2
25°	1485.1	1497.5	1513.0	1537.8	1542.5
27.5°	1440.1	1450.9	1471.1	1497.5	1503.7
30°	1387.3	1404.4	1429.2	1455.6	1461.8
32.5°	1336.1	1353.2	1382.7	1410.6	1418.4
35°	1283.3	1298.9	1329.9	1362.5	1371.8
37.5°	1222.8	1243.0	1277.1	1309.7	1319.0
40°	1159.2	1184.0	1222.8	1257.0	1267.8
42.5°	1098.7	1125.1	1163.9	1201.1	1213.5
45°	1035.1	1059.9	1106.4	1148.3	1157.7
47.5°	969.9	997.8	1047.5	1089.4	1104.9
50°	904.7	934.2	987.0	1030.4	1039.7
52.5°	839.5	870.6	926.4	973.0	977.6
55°	771.2	805.4	864.4	909.4	918.7
57.5°	709.2	738.7	802.3	848.8	859.7
60°	640.9	673.5	741.8	785.2	799.2
62.5°	575.7	609.9	681.2	724.7	737.1
65°	507.4	546.2	616.1	667.3	679.7
67.5°	448.5	485.7	560.2	609.9	622.3
70°	380.2	422.1	501.2	552.4	564.9
72.5°	321.2	364.7	443.8	493.5	512.1
75°	257.6	307.3	386.4	439.2	451.6
77.5°	195.5	252.9	333.6	374.0	374.0
80°	139.7	200.2	274.7	293.3	296.4
82.5°	91.6	150.5	203.3	201.7	201.7
85°	52.8	97.8	121.0	117.9	117.9
87.5°	20.2	40.3	43.5	43.5	41.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)