

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: P388900

Luminaire Tested: **24CZ2-60VHE-UNV-L940-CD1-SWPD1-U**

Issue Date: 2/28/2020

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: P388900
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 2/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-60VHE-UNV-L940-CD1-SWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5108.2 lumens
Efficiency: N/A
Efficacy: 132.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

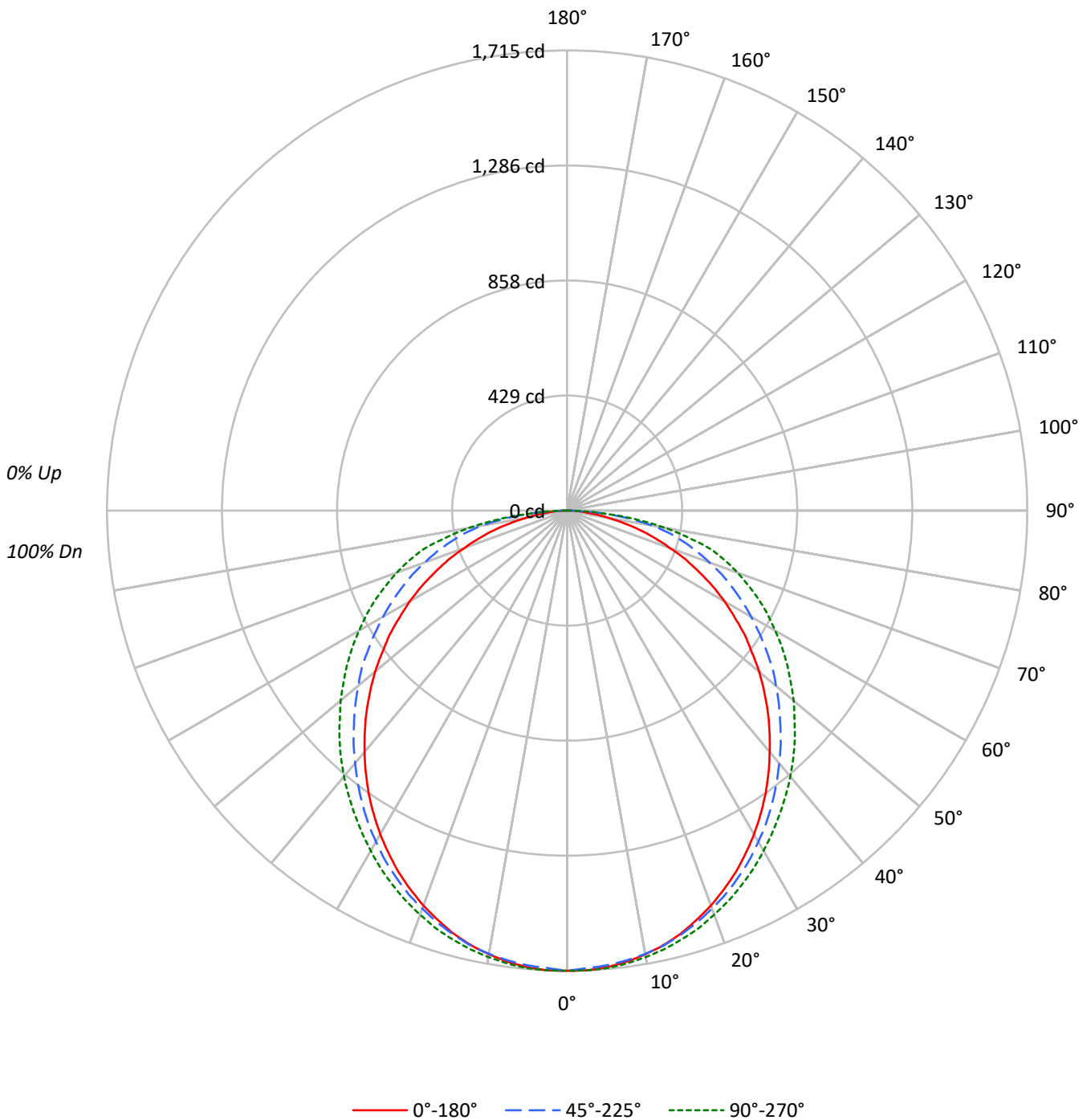
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2308	2308	2308
5°	2307	2298	2312
10°	2294	2292	2308
15°	2275	2280	2304
20°	2243	2260	2295
25°	2207	2240	2286
30°	2164	2214	2275
35°	2117	2187	2268
40°	2063	2159	2273
45°	2011	2138	2284
50°	1955	2127	2305
55°	1896	2124	2347
60°	1821	2133	2408
65°	1726	2166	2513
70°	1603	2220	2656
75°	1462	2331	2881
80°	1202	2510	2880
85°	922	2316	2475



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.2	3.2
10°-20°	463.1	9.1
20°-30°	696.9	13.6
30°-40°	835.1	16.3
40°-50°	870.3	17.0
50°-60°	809.7	15.9
60°-70°	666.9	13.1
70°-80°	454.2	8.9
80°-90°	149.9	2.9
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°	1322.1	25.9
0°-40°	2157.2	42.2
0°-60°	3837.2	75.1
0°-90°	5108.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5108.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1715	1715	1715	1715	1715	
5°	1708	1708	1701	1710	1712	162
15°	1633	1635	1637	1652	1654	460
25°	1487	1493	1509	1534	1540	684
35°	1289	1304	1332	1367	1381	806
45°	1057	1079	1124	1180	1200	815
55°	808	835	905	977	1001	720
65°	542	588	680	760	789	538
75°	281	344	448	528	554	297
85°	60	116	150	160	160	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1715.1	1715.1	1715.1	1715.1	1715.1
2.5°	1715.1	1715.1	1706.5	1715.1	1715.1
5°	1708.2	1708.2	1701.4	1709.9	1711.7
7.5°	1696.3	1698.0	1691.2	1701.4	1703.1
10°	1679.3	1681.0	1677.6	1687.8	1689.5
12.5°	1658.8	1660.5	1660.5	1672.4	1674.1
15°	1633.2	1634.9	1636.6	1652.0	1653.7
17.5°	1600.8	1606.0	1609.4	1628.1	1631.5
20°	1566.7	1571.9	1578.7	1599.1	1602.5
22.5°	1527.5	1534.3	1546.3	1568.4	1573.6
25°	1486.6	1493.4	1508.8	1534.3	1539.5
27.5°	1440.6	1450.8	1469.6	1496.8	1503.7
30°	1392.8	1403.1	1425.2	1454.2	1464.5
32.5°	1341.7	1355.3	1380.9	1413.3	1423.5
35°	1288.9	1304.2	1331.5	1367.3	1380.9
37.5°	1232.6	1249.6	1282.0	1321.2	1338.3
40°	1174.6	1195.1	1229.2	1275.2	1294.0
42.5°	1116.7	1135.4	1178.0	1227.5	1247.9
45°	1057.0	1079.2	1123.5	1179.7	1200.2
47.5°	995.6	1017.8	1070.6	1130.3	1149.1
50°	934.2	956.4	1016.1	1079.2	1101.3
52.5°	867.8	896.7	964.9	1028.0	1050.2
55°	808.1	835.4	905.3	976.9	1000.7
57.5°	739.9	772.3	849.0	924.0	949.6
60°	676.8	710.9	792.7	869.5	895.0
62.5°	612.0	649.5	736.5	814.9	843.9
65°	542.1	588.2	680.2	760.4	789.3
67.5°	479.1	526.8	624.0	705.8	731.4
70°	407.5	465.4	564.3	646.1	675.1
72.5°	346.1	404.0	508.0	588.2	617.1
75°	281.3	344.4	448.4	528.5	554.1
77.5°	216.5	286.4	390.4	451.8	460.3
80°	155.1	228.4	323.9	359.7	371.7
82.5°	109.1	175.6	238.7	262.5	269.4
85°	59.7	115.9	150.0	160.3	160.3
87.5°	25.6	49.4	59.7	61.4	63.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)