

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: P276417

Luminaire Tested: **24CZ2-60HE-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: P276417
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-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: 4664.7 lumens
Efficiency: N/A
Efficacy: 103.0 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

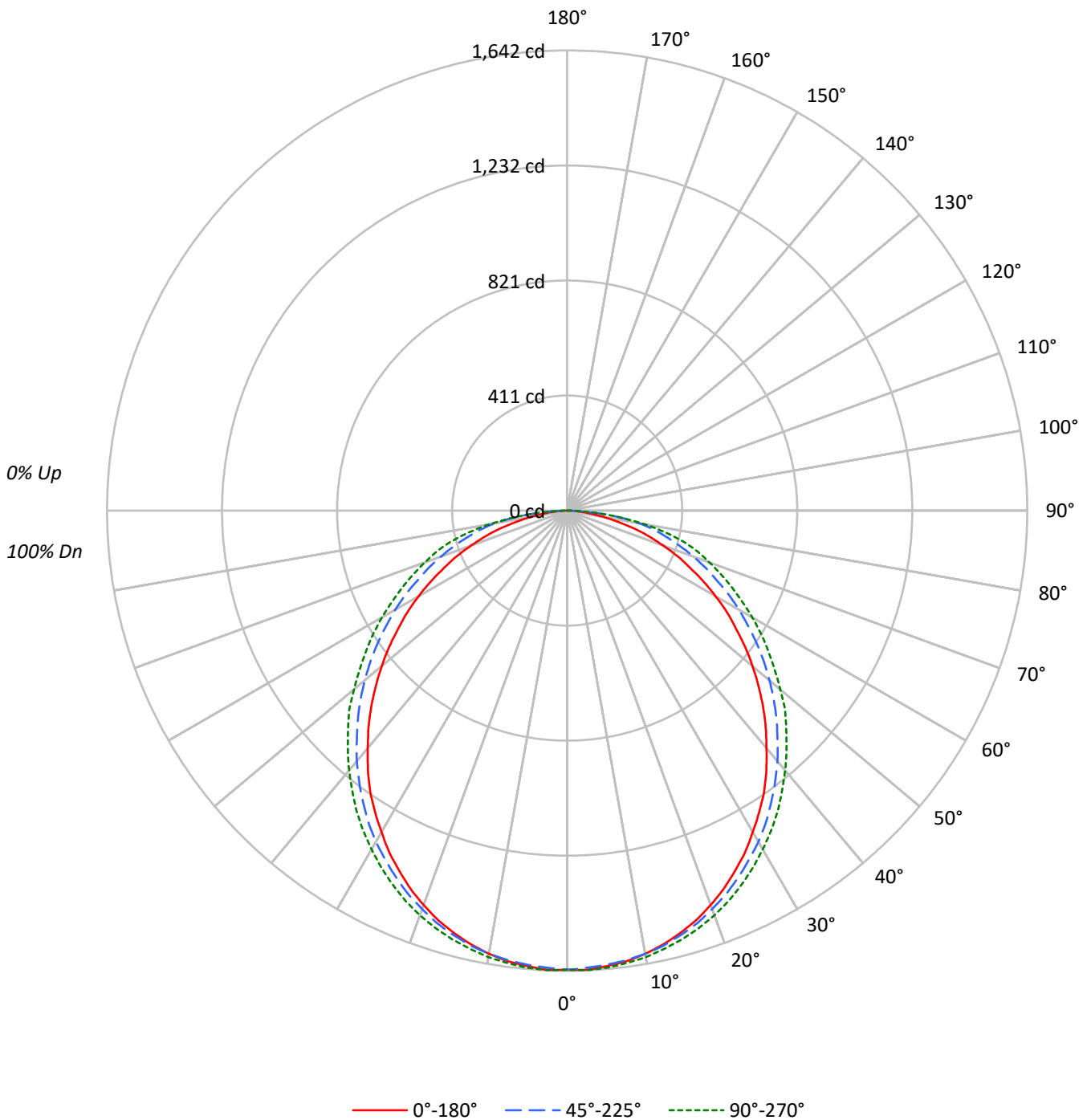
Input Watts (W): 45.286164
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2205	2205	2205
5°	2203	2197	2211
10°	2194	2194	2211
15°	2173	2184	2206
20°	2145	2166	2200
25°	2105	2145	2186
30°	2058	2120	2168
35°	2013	2086	2151
40°	1944	2051	2126
45°	1881	2010	2103
50°	1808	1973	2078
55°	1727	1936	2058
60°	1647	1906	2053
65°	1543	1873	2066
70°	1428	1883	2122
75°	1279	1918	2242
80°	1034	2032	2193
85°	778	1785	1738



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.1	3.3
10°-20°	443.3	9.5
20°-30°	666.4	14.3
30°-40°	793.7	17.0
40°-50°	812.4	17.4
50°-60°	731.4	15.7
60°-70°	574.4	12.3
70°-80°	372.8	8.0
80°-90°	115.3	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°	1264.8	27.1
0°-40°	2058.5	44.1
0°-60°	3602.3	77.2
0°-90°	4664.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4664.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1639	1639	1639	1639	1639	
5°	1631	1634	1627	1636	1637	155
15°	1560	1565	1568	1581	1584	440
25°	1418	1430	1445	1468	1473	653
35°	1225	1240	1270	1301	1310	764
45°	988	1012	1056	1096	1105	762
55°	736	769	825	868	877	660
65°	484	522	588	637	649	482
75°	246	293	369	419	431	260
85°	50	93	116	113	113	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1638.7	1638.7	1638.7	1638.7	1638.7
2.5°	1640.2	1640.2	1632.8	1640.2	1641.7
5°	1631.3	1634.3	1626.9	1635.8	1637.3
7.5°	1622.4	1622.4	1618.0	1626.9	1628.4
10°	1606.1	1607.6	1606.1	1616.5	1618.0
12.5°	1585.4	1588.4	1589.8	1600.2	1601.7
15°	1560.2	1564.7	1567.6	1581.0	1583.9
17.5°	1532.1	1536.5	1543.9	1558.7	1561.7
20°	1498.0	1503.9	1512.8	1532.1	1536.5
22.5°	1460.9	1466.9	1481.7	1499.5	1506.9
25°	1418.0	1429.8	1444.6	1468.4	1472.8
27.5°	1375.0	1385.4	1404.6	1429.8	1435.8
30°	1324.6	1340.9	1364.6	1389.8	1395.7
32.5°	1275.7	1292.0	1320.2	1346.9	1354.3
35°	1225.4	1240.2	1269.8	1300.9	1309.8
37.5°	1167.6	1186.8	1219.4	1250.5	1259.4
40°	1106.8	1130.5	1167.6	1200.2	1210.5
42.5°	1049.0	1074.2	1111.3	1146.8	1158.7
45°	988.3	1012.0	1056.4	1096.4	1105.3
47.5°	926.1	952.7	1000.1	1040.1	1055.0
50°	863.8	892.0	942.4	983.8	992.7
52.5°	801.6	831.2	884.6	929.0	933.5
55°	736.4	769.0	825.3	868.3	877.2
57.5°	677.1	705.3	766.0	810.5	820.9
60°	611.9	643.1	708.2	749.7	763.1
62.5°	549.7	582.3	650.5	691.9	703.8
65°	484.5	521.6	588.2	637.1	649.0
67.5°	428.2	463.8	534.9	582.3	594.2
70°	363.0	403.0	478.6	527.5	539.3
72.5°	306.7	348.2	423.8	471.2	489.0
75°	246.0	293.4	368.9	419.3	431.2
77.5°	186.7	241.5	318.6	357.1	357.1
80°	133.4	191.1	262.3	280.0	283.0
82.5°	87.4	143.7	194.1	192.6	192.6
85°	50.4	93.3	115.6	112.6	112.6
87.5°	19.3	38.5	41.5	41.5	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)