

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: P276423

Luminaire Tested: **24CZ2-65HE-S-UNV-L93050-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: P276423
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: 24CZ2-65HE-S-UNV-L93050-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: 5522.2 lumens
Efficiency: N/A
Efficacy: 110.8 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

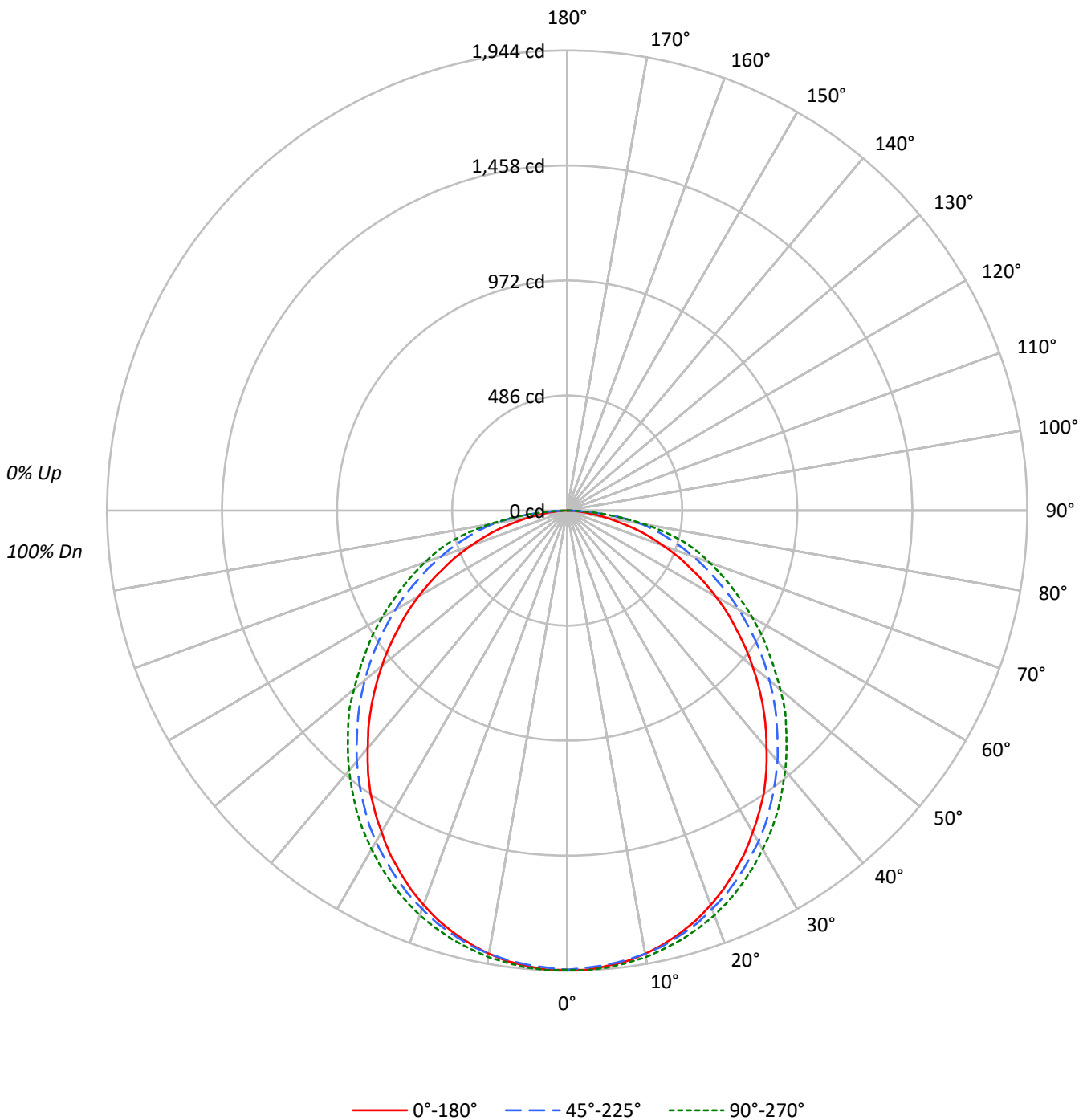
Input Watts (W): 49.847442
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2610	2610	2610
5°	2608	2601	2618
10°	2598	2598	2617
15°	2573	2585	2612
20°	2539	2564	2605
25°	2492	2539	2588
30°	2436	2510	2567
35°	2383	2469	2547
40°	2301	2428	2517
45°	2226	2380	2490
50°	2141	2335	2460
55°	2045	2292	2436
60°	1949	2256	2431
65°	1826	2217	2446
70°	1690	2229	2512
75°	1514	2271	2653
80°	1223	2406	2596
85°	920	2112	2058



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.7	3.3
10°-20°	524.8	9.5
20°-30°	788.9	14.3
30°-40°	939.7	17.0
40°-50°	961.7	17.4
50°-60°	865.8	15.7
60°-70°	679.9	12.3
70°-80°	441.3	8.0
80°-90°	136.5	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°	1497.3	27.1
0°-40°	2437.0	44.1
0°-60°	4264.5	77.2
0°-90°	5522.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5522.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1940	1940	1940	1940	1940	
5°	1931	1935	1926	1936	1938	184
15°	1847	1852	1856	1872	1875	521
25°	1679	1693	1710	1738	1744	773
35°	1451	1468	1503	1540	1551	905
45°	1170	1198	1251	1298	1308	902
55°	872	910	977	1028	1038	782
65°	574	617	696	754	768	571
75°	291	347	437	496	510	308
85°	60	110	137	133	133	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1940.0	1940.0	1940.0	1940.0	1940.0
2.5°	1941.8	1941.8	1933.0	1941.8	1943.5
5°	1931.2	1934.7	1926.0	1936.5	1938.2
7.5°	1920.7	1920.7	1915.4	1926.0	1927.7
10°	1901.4	1903.2	1901.4	1913.7	1915.4
12.5°	1876.9	1880.4	1882.1	1894.4	1896.1
15°	1847.0	1852.3	1855.8	1871.6	1875.1
17.5°	1813.7	1819.0	1827.7	1845.3	1848.8
20°	1773.4	1780.4	1790.9	1813.7	1819.0
22.5°	1729.5	1736.5	1754.1	1775.1	1783.9
25°	1678.6	1692.7	1710.2	1738.3	1743.5
27.5°	1627.8	1640.1	1662.9	1692.7	1699.7
30°	1568.1	1587.4	1615.5	1645.3	1652.3
32.5°	1510.3	1529.5	1562.9	1594.4	1603.2
35°	1450.6	1468.2	1503.2	1540.1	1550.6
37.5°	1382.2	1405.0	1443.6	1480.4	1491.0
40°	1310.3	1338.4	1382.2	1420.8	1433.1
42.5°	1241.9	1271.7	1315.5	1357.6	1371.7
45°	1170.0	1198.0	1250.6	1298.0	1308.5
47.5°	1096.3	1127.9	1184.0	1231.4	1248.9
50°	1022.6	1055.9	1115.6	1164.7	1175.2
52.5°	948.9	984.0	1047.2	1099.8	1105.1
55°	871.8	910.4	977.0	1027.9	1038.4
57.5°	801.6	834.9	906.9	959.5	971.8
60°	724.4	761.3	838.4	887.6	903.3
62.5°	650.8	689.3	770.0	819.1	833.2
65°	573.6	617.4	696.4	754.2	768.3
67.5°	506.9	549.0	633.2	689.3	703.4
70°	429.7	477.1	566.6	624.4	638.5
72.5°	363.1	412.2	501.7	557.8	578.8
75°	291.2	347.3	436.8	496.4	510.4
77.5°	221.0	285.9	377.1	422.7	422.7
80°	157.9	226.3	310.5	331.5	335.0
82.5°	103.5	170.1	229.8	228.0	228.0
85°	59.6	110.5	136.8	133.3	133.3
87.5°	22.8	45.6	49.1	49.1	47.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)