

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: P276419

Luminaire Tested: **24CZ2-60HE-S-UNV-L93050-W2A1-U-4000K**

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: P276419
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-4000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5504.1 lumens
Efficiency: N/A
Efficacy: 121.2 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

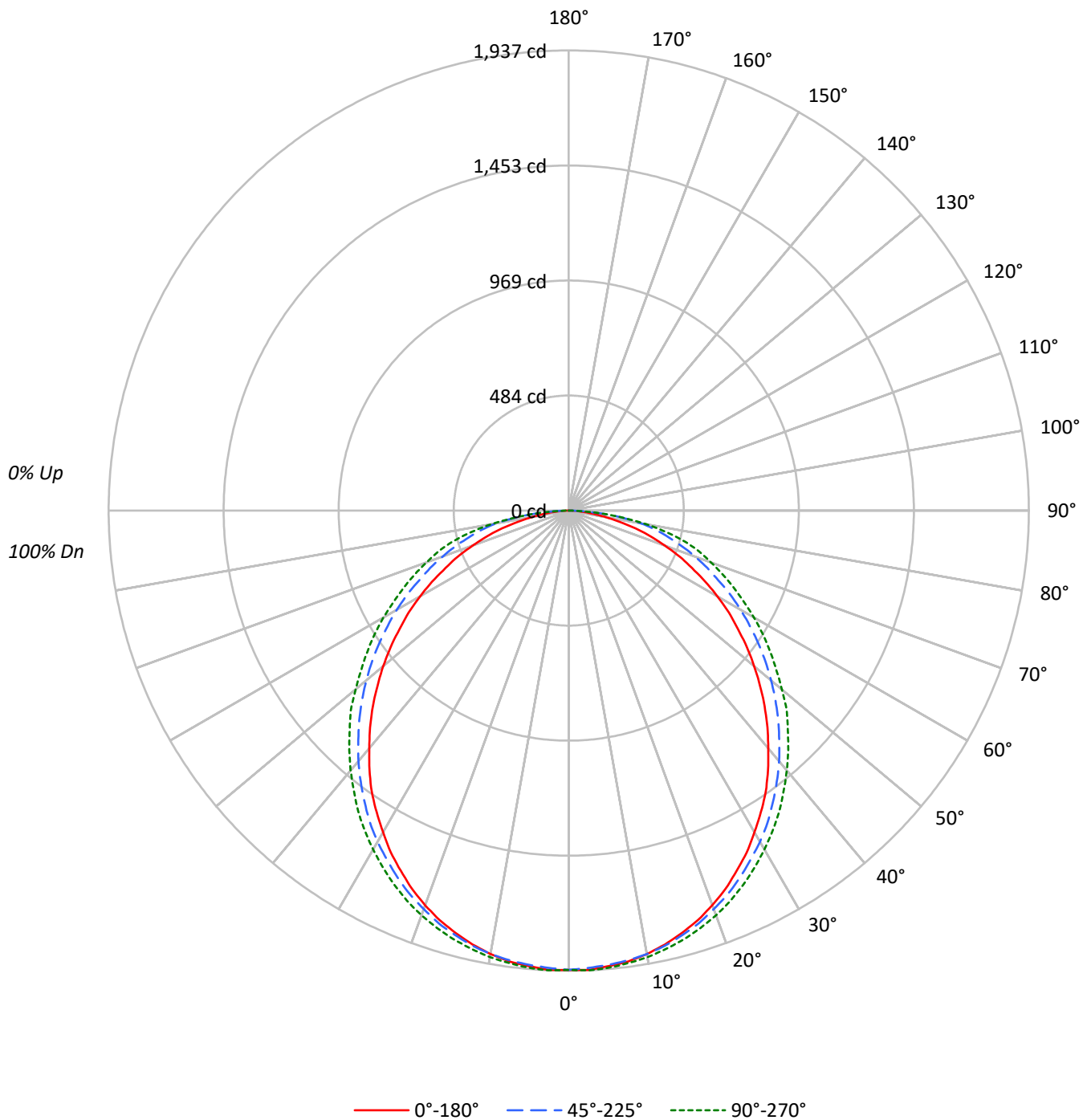
Input Watts (W): 45.418968
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	2602	2602	2602
5°	2600	2593	2609
10°	2589	2589	2608
15°	2564	2577	2603
20°	2531	2556	2596
25°	2484	2531	2580
30°	2428	2502	2559
35°	2375	2461	2539
40°	2294	2420	2509
45°	2219	2372	2482
50°	2134	2327	2452
55°	2038	2284	2428
60°	1943	2249	2423
65°	1820	2210	2438
70°	1685	2222	2504
75°	1509	2263	2645
80°	1219	2398	2587
85°	917	2106	2052



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	3.3
10°-20°	523.1	9.5
20°-30°	786.3	14.3
30°-40°	936.6	17.0
40°-50°	958.6	17.4
50°-60°	863.0	15.7
60°-70°	677.7	12.3
70°-80°	439.9	8.0
80°-90°	136.0	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°	1492.4	27.1
0°-40°	2429.0	44.1
0°-60°	4250.5	77.2
0°-90°	5504.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5504.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1934	1934	1934	1934	1934	
5°	1925	1928	1920	1930	1932	183
15°	1841	1846	1850	1865	1869	519
25°	1673	1687	1705	1733	1738	771
35°	1446	1463	1498	1535	1546	902
45°	1166	1194	1246	1294	1304	899
55°	869	907	974	1024	1035	779
65°	572	615	694	752	766	569
75°	290	346	435	495	509	307
85°	59	110	136	133	133	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1933.6	1933.6	1933.6	1933.6	1933.6
2.5°	1935.4	1935.4	1926.6	1935.4	1937.1
5°	1924.9	1928.4	1919.6	1930.1	1931.9
7.5°	1914.4	1914.4	1909.2	1919.6	1921.4
10°	1895.2	1896.9	1895.2	1907.4	1909.2
12.5°	1870.7	1874.2	1875.9	1888.2	1889.9
15°	1841.0	1846.2	1849.7	1865.4	1868.9
17.5°	1807.8	1813.0	1821.7	1839.2	1842.7
20°	1767.5	1774.5	1785.0	1807.8	1813.0
22.5°	1723.8	1730.8	1748.3	1769.3	1778.0
25°	1673.1	1687.1	1704.6	1732.6	1737.8
27.5°	1622.4	1634.7	1657.4	1687.1	1694.1
30°	1563.0	1582.2	1610.2	1639.9	1646.9
32.5°	1505.3	1524.5	1557.7	1589.2	1598.0
35°	1445.9	1463.3	1498.3	1535.0	1545.5
37.5°	1377.7	1400.4	1438.9	1475.6	1486.1
40°	1306.0	1334.0	1377.7	1416.1	1428.4
42.5°	1237.8	1267.5	1311.2	1353.2	1367.2
45°	1166.1	1194.1	1246.5	1293.8	1304.2
47.5°	1092.7	1124.2	1180.1	1227.3	1244.8
50°	1019.3	1052.5	1111.9	1160.9	1171.4
52.5°	945.8	980.8	1043.7	1096.2	1101.4
55°	868.9	907.4	973.8	1024.5	1035.0
57.5°	799.0	832.2	903.9	956.3	968.6
60°	722.1	758.8	835.7	884.6	900.4
62.5°	648.6	687.1	767.5	816.5	830.4
65°	571.7	615.4	694.1	751.8	765.8
67.5°	505.3	547.2	631.1	687.1	701.1
70°	428.3	475.5	564.7	622.4	636.4
72.5°	361.9	410.9	500.0	556.0	576.9
75°	290.2	346.2	435.3	494.8	508.8
77.5°	220.3	285.0	375.9	421.3	421.3
80°	157.3	225.5	309.5	330.4	333.9
82.5°	103.2	169.6	229.0	227.3	227.3
85°	59.4	110.1	136.4	132.9	132.9
87.5°	22.7	45.5	49.0	49.0	47.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)