

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: FAIL-SAFE

Report Number: P311531

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-5500K**

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: P311531
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: FAIL-SAFE
Catalog Number: 24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5020.0 lumens
Efficiency: N/A
Efficacy: 127.1 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

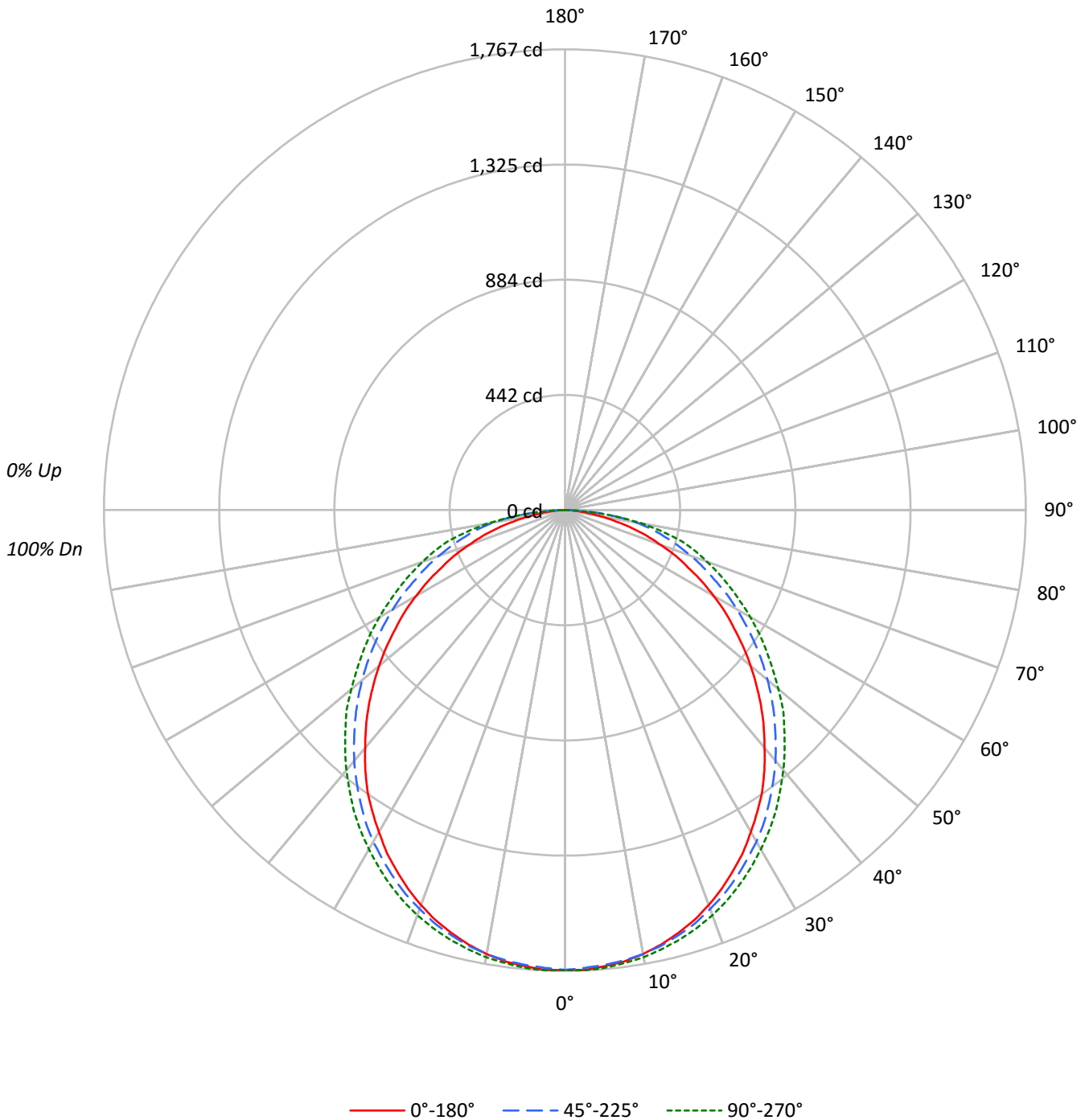
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2373	2373	2373
5°	2371	2365	2380
10°	2362	2362	2379
15°	2339	2350	2374
20°	2308	2331	2368
25°	2265	2308	2353
30°	2215	2282	2334
35°	2166	2245	2315
40°	2092	2207	2288
45°	2024	2163	2263
50°	1946	2123	2236
55°	1859	2084	2214
60°	1772	2051	2210
65°	1660	2015	2223
70°	1537	2026	2283
75°	1376	2064	2412
80°	1112	2187	2360
85°	837	1920	1871



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.0	3.3
10°-20°	477.1	9.5
20°-30°	717.1	14.3
30°-40°	854.2	17.0
40°-50°	874.2	17.4
50°-60°	787.1	15.7
60°-70°	618.1	12.3
70°-80°	401.2	8.0
80°-90°	124.1	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°	1361.1	27.1
0°-40°	2215.3	44.1
0°-60°	3876.7	77.2
0°-90°	5020.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5020.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1764	1764	1764	1764	1764	
5°	1756	1759	1751	1760	1762	167
15°	1679	1684	1687	1701	1705	473
25°	1526	1539	1555	1580	1585	703
35°	1319	1335	1366	1400	1410	823
45°	1064	1089	1137	1180	1190	820
55°	792	828	888	934	944	710
65°	521	561	633	686	698	519
75°	265	316	397	451	464	280
85°	54	100	124	121	121	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1763.6	1763.6	1763.6	1763.6	1763.6
2.5°	1765.2	1765.2	1757.2	1765.2	1766.7
5°	1755.6	1758.8	1750.8	1760.4	1762.0
7.5°	1746.0	1746.0	1741.2	1750.8	1752.4
10°	1728.5	1730.1	1728.5	1739.6	1741.2
12.5°	1706.2	1709.3	1710.9	1722.1	1723.7
15°	1679.0	1683.8	1687.0	1701.4	1704.6
17.5°	1648.8	1653.5	1661.5	1677.5	1680.6
20°	1612.1	1618.5	1628.0	1648.8	1653.5
22.5°	1572.2	1578.6	1594.5	1613.7	1621.6
25°	1526.0	1538.7	1554.7	1580.2	1585.0
27.5°	1479.7	1490.9	1511.6	1538.7	1545.1
30°	1425.5	1443.1	1468.6	1495.7	1502.1
32.5°	1372.9	1390.4	1420.7	1449.4	1457.4
35°	1318.7	1334.6	1366.5	1400.0	1409.6
37.5°	1256.5	1277.2	1312.3	1345.8	1355.4
40°	1191.1	1216.6	1256.5	1291.6	1302.7
42.5°	1128.9	1156.0	1195.9	1234.2	1246.9
45°	1063.6	1089.1	1136.9	1180.0	1189.5
47.5°	996.6	1025.3	1076.3	1119.4	1135.3
50°	929.6	959.9	1014.1	1058.8	1068.3
52.5°	862.6	894.5	951.9	999.8	1004.6
55°	792.5	827.6	888.2	934.4	944.0
57.5°	728.7	759.0	824.4	872.2	883.4
60°	658.5	692.0	762.2	806.8	821.2
62.5°	591.6	626.7	700.0	744.6	757.4
65°	521.4	561.3	633.0	685.7	698.4
67.5°	460.8	499.1	575.6	626.7	639.4
70°	390.7	433.7	515.0	567.7	580.4
72.5°	330.1	374.7	456.0	507.1	526.2
75°	264.7	315.7	397.0	451.3	464.0
77.5°	200.9	259.9	342.8	384.3	384.3
80°	143.5	205.7	282.2	301.4	304.6
82.5°	94.1	154.7	208.9	207.3	207.3
85°	54.2	100.5	124.4	121.2	121.2
87.5°	20.7	41.5	44.6	44.6	43.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)