

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: P311530

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-5000K**

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: P311530
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 4971.0 lumens
Efficiency: N/A
Efficacy: 126.5 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

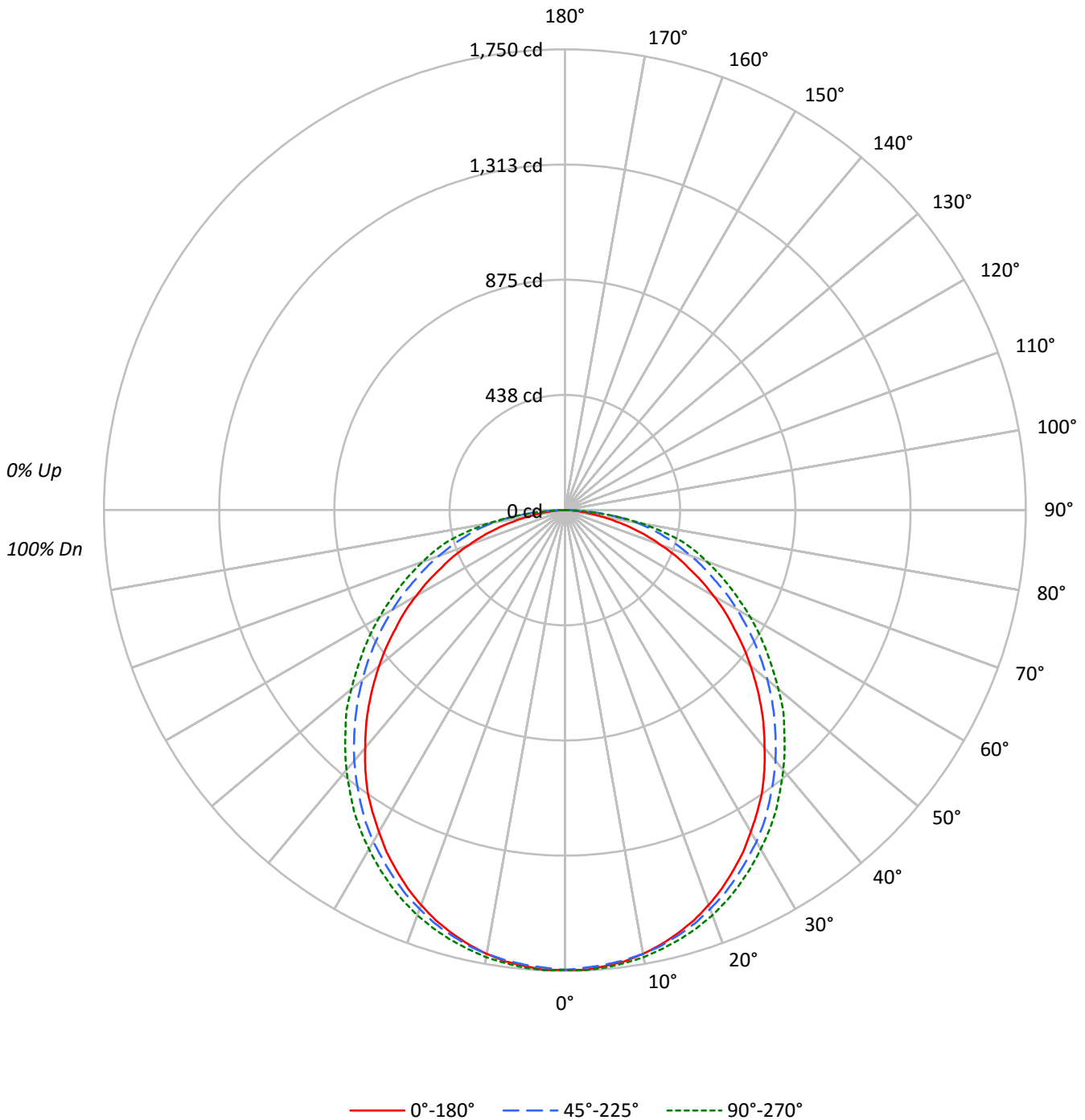
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2350	2350	2350
5°	2348	2342	2357
10°	2338	2338	2356
15°	2316	2327	2351
20°	2286	2308	2344
25°	2243	2286	2330
30°	2193	2259	2311
35°	2145	2223	2293
40°	2072	2185	2266
45°	2004	2142	2241
50°	1927	2102	2214
55°	1841	2063	2193
60°	1755	2031	2188
65°	1644	1996	2202
70°	1522	2006	2261
75°	1363	2044	2389
80°	1101	2166	2337
85°	829	1902	1853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.3	3.3
10°-20°	472.4	9.5
20°-30°	710.1	14.3
30°-40°	845.9	17.0
40°-50°	865.7	17.4
50°-60°	779.4	15.7
60°-70°	612.1	12.3
70°-80°	397.2	8.0
80°-90°	122.9	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°	1347.9	27.1
0°-40°	2193.7	44.1
0°-60°	3838.8	77.2
0°-90°	4971.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4971.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1746	1746	1746	1746	1746	
5°	1738	1742	1734	1743	1745	165
15°	1663	1667	1671	1685	1688	469
25°	1511	1524	1540	1565	1570	696
35°	1306	1322	1353	1386	1396	815
45°	1053	1078	1126	1168	1178	812
55°	785	820	880	925	935	704
65°	516	556	627	679	692	514
75°	262	313	393	447	460	277
85°	54	100	123	120	120	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1746.3	1746.3	1746.3	1746.3	1746.3
2.5°	1747.9	1747.9	1740.0	1747.9	1749.5
5°	1738.4	1741.6	1733.7	1743.2	1744.8
7.5°	1729.0	1729.0	1724.2	1733.7	1735.3
10°	1711.6	1713.2	1711.6	1722.7	1724.2
12.5°	1689.5	1692.7	1694.2	1705.3	1706.9
15°	1662.7	1667.4	1670.6	1684.8	1687.9
17.5°	1632.7	1637.4	1645.3	1661.1	1664.2
20°	1596.3	1602.7	1612.1	1632.7	1637.4
22.5°	1556.9	1563.2	1579.0	1597.9	1605.8
25°	1511.1	1523.7	1539.5	1564.8	1569.5
27.5°	1465.3	1476.3	1496.9	1523.7	1530.0
30°	1411.6	1429.0	1454.2	1481.1	1487.4
32.5°	1359.5	1376.9	1406.9	1435.3	1443.2
35°	1305.8	1321.6	1353.2	1386.3	1395.8
37.5°	1244.2	1264.8	1299.5	1332.7	1342.1
40°	1179.5	1204.8	1244.2	1279.0	1290.0
42.5°	1117.9	1144.8	1184.2	1222.1	1234.8
45°	1053.2	1078.4	1125.8	1168.4	1177.9
47.5°	986.9	1015.3	1065.8	1108.4	1124.2
50°	920.5	950.5	1004.2	1048.4	1057.9
52.5°	854.2	885.8	942.6	990.0	994.8
55°	784.7	819.5	879.5	925.3	934.8
57.5°	721.6	751.6	816.3	863.7	874.8
60°	652.1	685.3	754.7	799.0	813.2
62.5°	585.8	620.5	693.2	737.4	750.0
65°	516.3	555.8	626.9	679.0	691.6
67.5°	456.3	494.2	570.0	620.5	633.2
70°	386.8	429.5	510.0	562.1	574.7
72.5°	326.8	371.1	451.6	502.1	521.1
75°	262.1	312.6	393.2	446.8	459.5
77.5°	199.0	257.4	339.5	380.5	380.5
80°	142.1	203.7	279.5	298.4	301.6
82.5°	93.2	153.2	206.8	205.3	205.3
85°	53.7	99.5	123.2	120.0	120.0
87.5°	20.5	41.1	44.2	44.2	42.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)