

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: P311572

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CA08-W2A-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: P311572  
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: 24FCZ2-50-UNV-L82765-S-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 3500K 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: 4693.0 lumens  
Efficiency: N/A  
Efficacy: 109.4 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

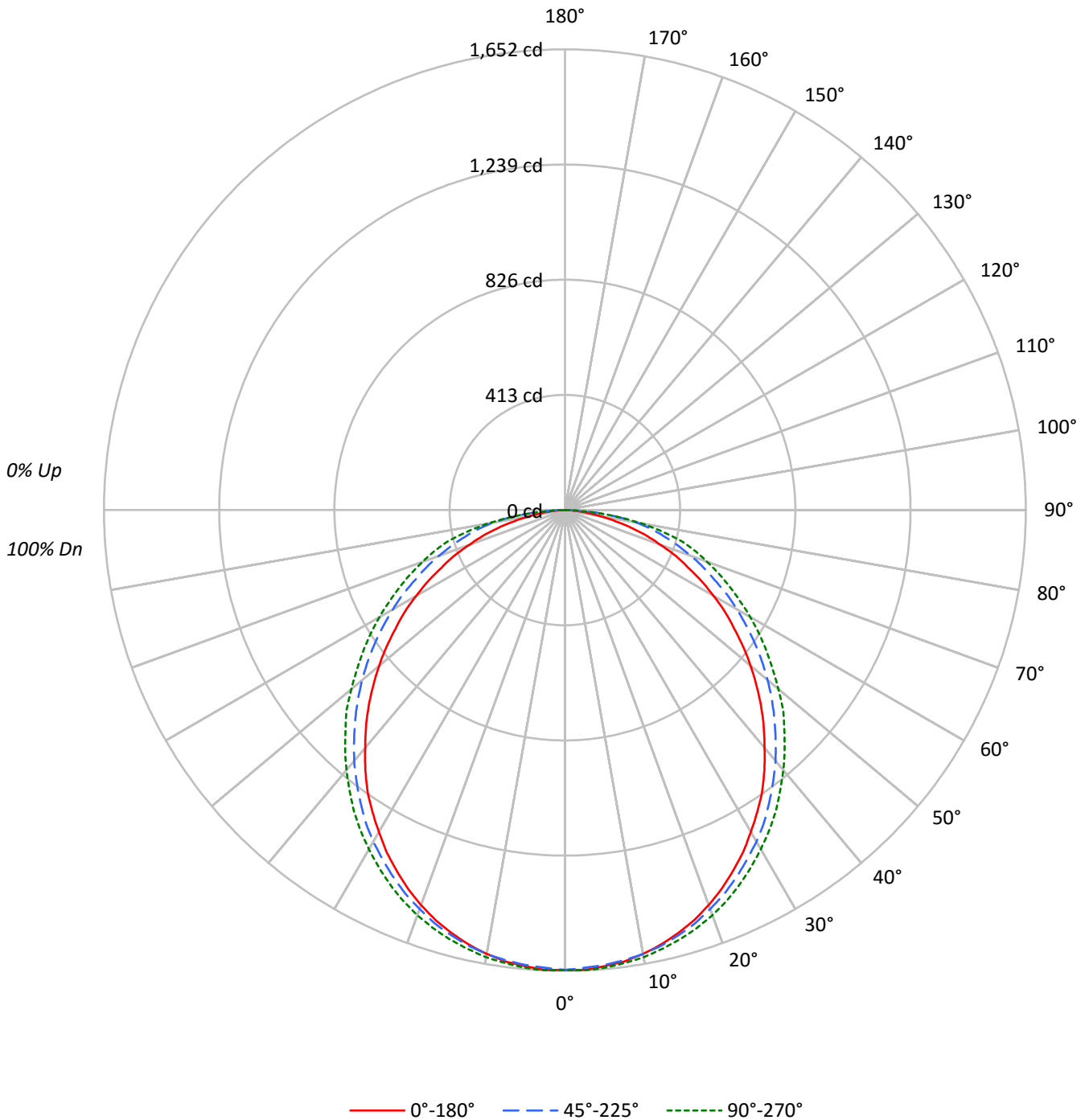
Input Watts (W): 42.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P311572

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-S-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P311572

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-S-CA08-W2A-U-3500K

**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°	2218	2218	2218
5°	2217	2211	2225
10°	2208	2208	2224
15°	2187	2197	2220
20°	2158	2179	2213
25°	2118	2158	2200
30°	2071	2133	2182
35°	2025	2098	2165
40°	1956	2063	2139
45°	1892	2022	2116
50°	1819	1985	2090
55°	1738	1948	2070
60°	1657	1917	2066
65°	1552	1884	2079
70°	1437	1894	2135
75°	1287	1930	2255
80°	1040	2044	2206
85°	783	1795	1749



TEST NUMBER: P311572

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-S-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.1	3.3
10°-20°	446.0	9.5
20°-30°	670.4	14.3
30°-40°	798.6	17.0
40°-50°	817.3	17.4
50°-60°	735.8	15.7
60°-70°	577.8	12.3
70°-80°	375.0	8.0
80°-90°	116.0	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°	1272.5	27.1
0°-40°	2071.0	44.1
0°-60°	3624.2	77.2
0°-90°	4693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4693.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1649	1649	1649	1649	1649	
5°	1641	1644	1637	1646	1647	156
15°	1570	1574	1577	1590	1594	443
25°	1427	1438	1453	1477	1482	657
35°	1233	1248	1278	1309	1318	769
45°	994	1018	1063	1103	1112	767
55°	741	774	830	874	882	664
65°	487	525	592	641	653	485
75°	248	295	371	422	434	262
85°	51	94	116	113	113	61
90°	0	0	0	0	0	



TEST NUMBER: P311572

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-S-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1648.7	1648.7	1648.7	1648.7	1648.7
2.5°	1650.2	1650.2	1642.7	1650.2	1651.7
5°	1641.2	1644.2	1636.8	1645.7	1647.2
7.5°	1632.3	1632.3	1627.8	1636.8	1638.2
10°	1615.9	1617.4	1615.9	1626.3	1627.8
12.5°	1595.0	1598.0	1599.5	1609.9	1611.4
15°	1569.7	1574.1	1577.1	1590.5	1593.5
17.5°	1541.4	1545.8	1553.3	1568.2	1571.2
20°	1507.1	1513.0	1522.0	1541.4	1545.8
22.5°	1469.8	1475.8	1490.7	1508.6	1516.0
25°	1426.6	1438.5	1453.4	1477.3	1481.7
27.5°	1383.3	1393.8	1413.2	1438.5	1444.5
30°	1332.7	1349.1	1372.9	1398.2	1404.2
32.5°	1283.5	1299.9	1328.2	1355.0	1362.5
35°	1232.8	1247.7	1277.5	1308.8	1317.8
37.5°	1174.6	1194.0	1226.8	1258.1	1267.1
40°	1113.5	1137.4	1174.6	1207.4	1217.9
42.5°	1055.4	1080.7	1118.0	1153.8	1165.7
45°	994.3	1018.1	1062.8	1103.1	1112.0
47.5°	931.7	958.5	1006.2	1046.5	1061.4
50°	869.1	897.4	948.1	989.8	998.7
52.5°	806.5	836.3	889.9	934.7	939.1
55°	740.9	773.7	830.3	873.5	882.5
57.5°	681.2	709.6	770.7	815.4	825.8
60°	615.6	647.0	712.5	754.3	767.7
62.5°	553.0	585.8	654.4	696.1	708.1
65°	487.4	524.7	591.8	641.0	652.9
67.5°	430.8	466.6	538.1	585.8	597.8
70°	365.2	405.5	481.5	530.7	542.6
72.5°	308.6	350.3	426.3	474.0	491.9
75°	247.5	295.2	371.2	421.9	433.8
77.5°	187.8	243.0	320.5	359.3	359.3
80°	134.2	192.3	263.8	281.7	284.7
82.5°	87.9	144.6	195.3	193.8	193.8
85°	50.7	93.9	116.3	113.3	113.3
87.5°	19.4	38.8	41.7	41.7	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)