

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: P311570

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CA08-W2A-U-2700K**

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: P311570  
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-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 2700K 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

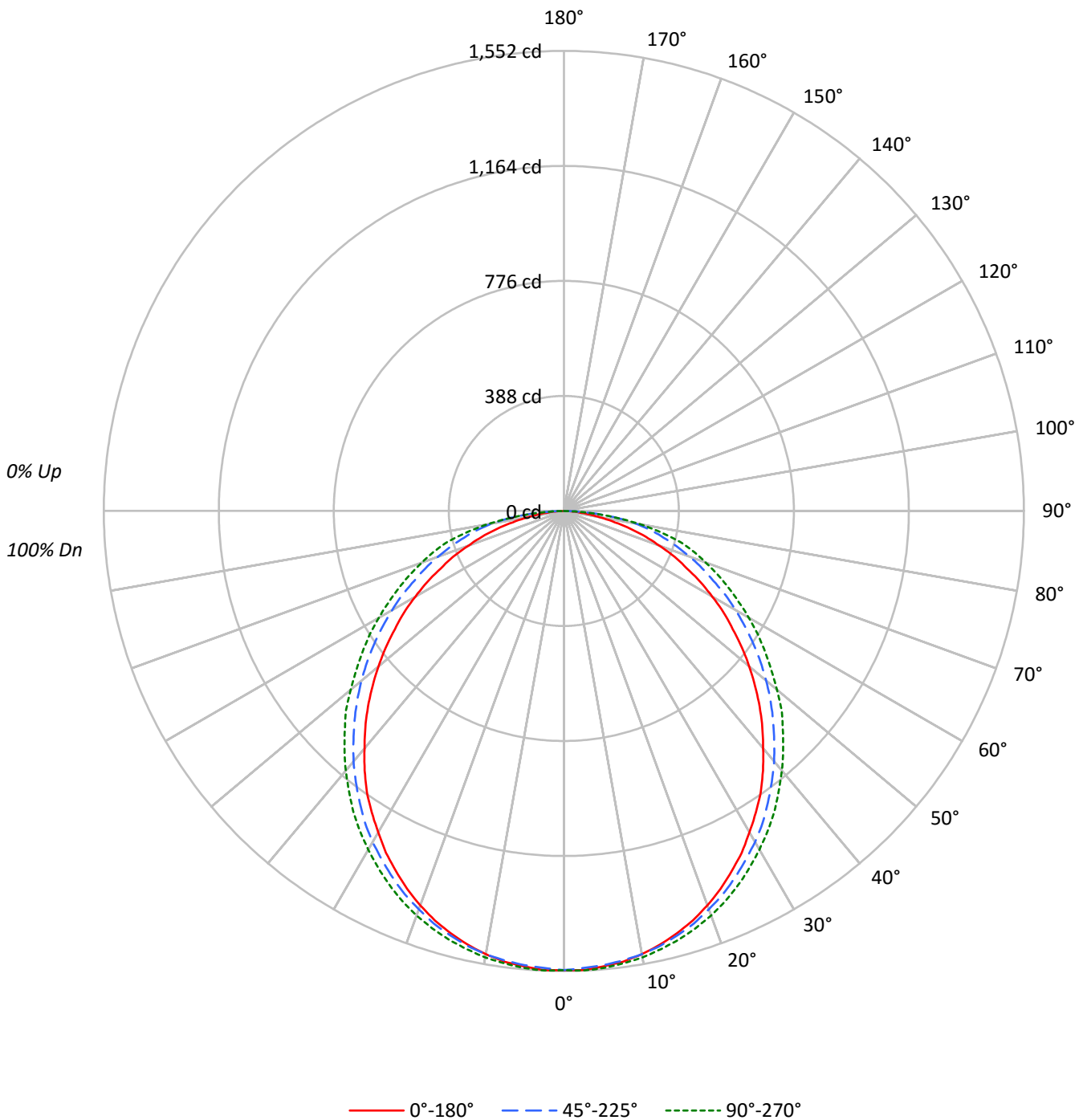
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4409.0 lumens  
Efficiency: N/A  
Efficacy: 103.3 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): 42.7  
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



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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°	2084	2084	2084
5°	2083	2077	2090
10°	2074	2074	2089
15°	2054	2064	2085
20°	2027	2047	2079
25°	1990	2027	2067
30°	1945	2004	2050
35°	1902	1971	2033
40°	1837	1938	2010
45°	1777	1900	1988
50°	1709	1864	1964
55°	1633	1830	1945
60°	1556	1801	1941
65°	1458	1770	1953
70°	1350	1779	2006
75°	1209	1813	2118
80°	976	1921	2073
85°	735	1686	1643



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.6	3.3
10°-20°	419.0	9.5
20°-30°	629.8	14.3
30°-40°	750.2	17.0
40°-50°	767.8	17.4
50°-60°	691.3	15.7
60°-70°	542.9	12.3
70°-80°	352.3	8.0
80°-90°	109.0	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°	1195.5	27.1
0°-40°	1945.7	44.1
0°-60°	3404.8	77.2
0°-90°	4409.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4409.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1549	1549	1549	1549	1549	
5°	1542	1545	1538	1546	1548	147
15°	1475	1479	1482	1494	1497	416
25°	1340	1351	1366	1388	1392	617
35°	1158	1172	1200	1230	1238	723
45°	934	956	998	1036	1045	720
55°	696	727	780	821	829	624
65°	458	493	556	602	613	456
75°	232	277	349	396	408	246
85°	48	88	109	106	106	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1548.9	1548.9	1548.9	1548.9	1548.9
2.5°	1550.3	1550.3	1543.3	1550.3	1551.7
5°	1541.9	1544.7	1537.7	1546.1	1547.5
7.5°	1533.5	1533.5	1529.3	1537.7	1539.1
10°	1518.1	1519.5	1518.1	1527.9	1529.3
12.5°	1498.5	1501.3	1502.7	1512.5	1513.9
15°	1474.7	1478.9	1481.7	1494.3	1497.1
17.5°	1448.1	1452.3	1459.3	1473.3	1476.1
20°	1415.9	1421.5	1429.9	1448.1	1452.3
22.5°	1380.9	1386.5	1400.5	1417.3	1424.3
25°	1340.2	1351.4	1365.5	1387.9	1392.1
27.5°	1299.6	1309.4	1327.6	1351.4	1357.0
30°	1252.0	1267.4	1289.8	1313.6	1319.2
32.5°	1205.8	1221.2	1247.8	1273.0	1280.0
35°	1158.2	1172.2	1200.2	1229.6	1238.0
37.5°	1103.6	1121.8	1152.6	1182.0	1190.4
40°	1046.1	1068.6	1103.6	1134.4	1144.2
42.5°	991.5	1015.3	1050.3	1084.0	1095.2
45°	934.1	956.5	998.5	1036.3	1044.7
47.5°	875.3	900.5	945.3	983.1	997.1
50°	816.5	843.1	890.7	929.9	938.3
52.5°	757.6	785.7	836.1	878.1	882.3
55°	696.0	726.8	780.1	820.7	829.1
57.5°	640.0	666.6	724.0	766.1	775.9
60°	578.4	607.8	669.4	708.6	721.2
62.5°	519.6	550.4	614.8	654.0	665.2
65°	458.0	493.0	556.0	602.2	613.4
67.5°	404.7	438.3	505.6	550.4	561.6
70°	343.1	380.9	452.3	498.6	509.8
72.5°	289.9	329.1	400.5	445.3	462.2
75°	232.5	277.3	348.7	396.3	407.5
77.5°	176.5	228.3	301.1	337.5	337.5
80°	126.0	180.7	247.9	264.7	267.5
82.5°	82.6	135.8	183.5	182.1	182.1
85°	47.6	88.2	109.2	106.4	106.4
87.5°	18.2	36.4	39.2	39.2	37.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)