

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: P311750

Luminaire Tested: **24FCZ2-70HE-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: P311750  
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: 24FCZ2-70HE-UNV-L82765-S-CA08-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 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

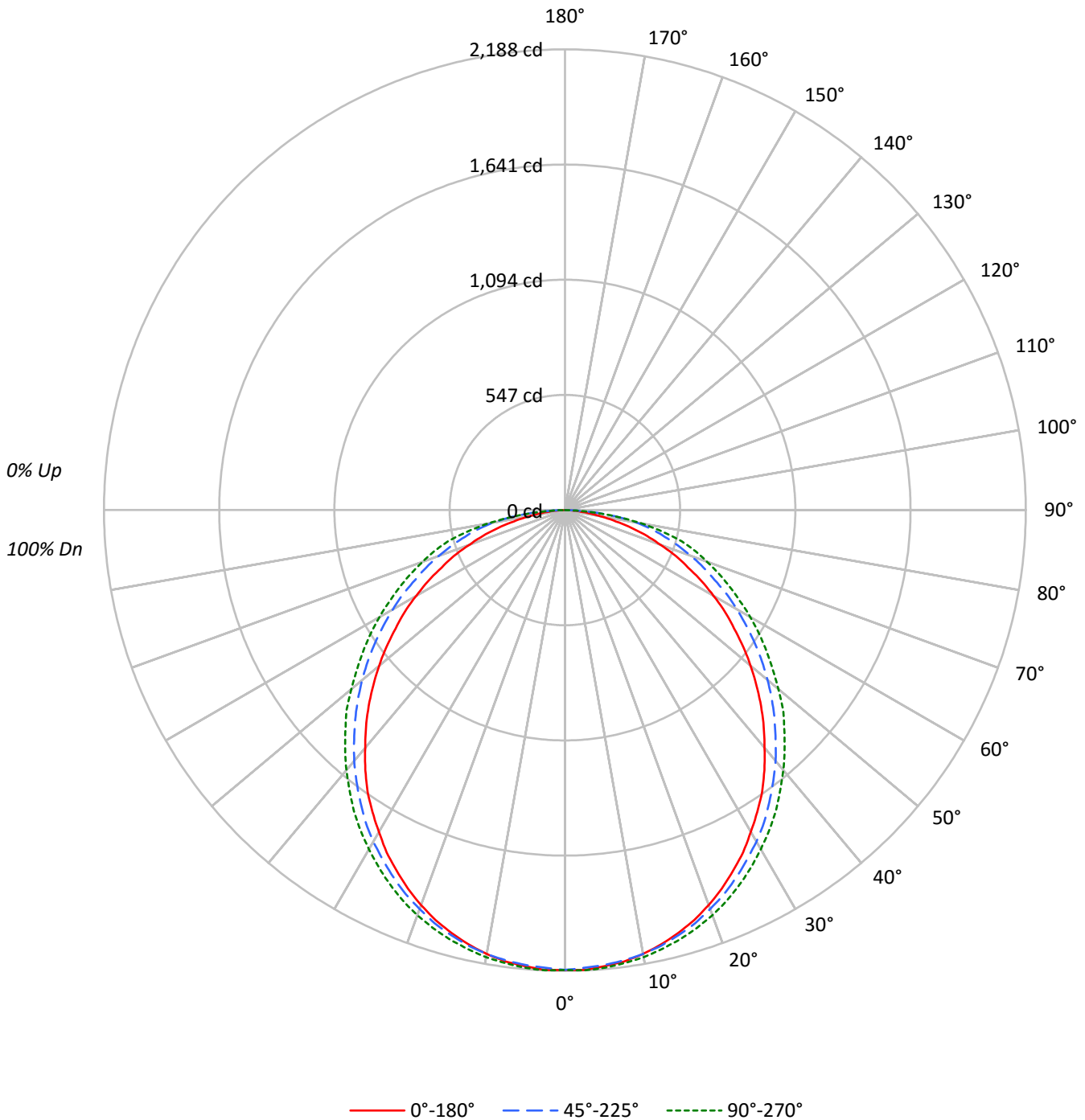
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6216.0 lumens  
Efficiency: N/A  
Efficacy: 107.7 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): 57.7  
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°	2938	2938	2938
5°	2936	2928	2947
10°	2924	2924	2946
15°	2896	2910	2940
20°	2858	2886	2932
25°	2805	2858	2914
30°	2742	2825	2890
35°	2682	2779	2867
40°	2591	2733	2833
45°	2506	2679	2803
50°	2409	2628	2769
55°	2302	2580	2742
60°	2194	2540	2736
65°	2055	2495	2753
70°	1903	2509	2827
75°	1704	2556	2987
80°	1377	2708	2922
85°	1036	2377	2317



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.7	3.3
10°-20°	590.7	9.5
20°-30°	888.0	14.3
30°-40°	1057.7	17.0
40°-50°	1082.5	17.4
50°-60°	974.6	15.7
60°-70°	765.4	12.3
70°-80°	496.7	8.0
80°-90°	153.6	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°	1685.4	27.1
0°-40°	2743.2	44.1
0°-60°	4800.3	77.2
0°-90°	6216.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6216.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2184	2184	2184	2184	2184	
5°	2174	2178	2168	2180	2182	207
15°	2079	2085	2089	2107	2111	586
25°	1890	1905	1925	1957	1963	870
35°	1633	1653	1692	1734	1745	1019
45°	1317	1348	1408	1461	1473	1015
55°	981	1025	1100	1157	1169	880
65°	646	695	784	849	865	643
75°	328	391	492	559	575	347
85°	67	124	154	150	150	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2183.7	2183.7	2183.7	2183.7	2183.7
2.5°	2185.7	2185.7	2175.8	2185.7	2187.7
5°	2173.8	2177.8	2167.9	2179.8	2181.7
7.5°	2162.0	2162.0	2156.1	2167.9	2169.9
10°	2140.3	2142.3	2140.3	2154.1	2156.1
12.5°	2112.6	2116.6	2118.6	2132.4	2134.4
15°	2079.1	2085.0	2088.9	2106.7	2110.7
17.5°	2041.6	2047.5	2057.4	2077.1	2081.1
20°	1996.2	2004.0	2015.9	2041.6	2047.5
22.5°	1946.8	1954.7	1974.4	1998.1	2008.0
25°	1889.5	1905.3	1925.1	1956.7	1962.6
27.5°	1832.3	1846.1	1871.8	1905.3	1913.2
30°	1765.1	1786.9	1818.5	1852.0	1859.9
32.5°	1700.0	1721.7	1759.2	1794.8	1804.6
35°	1632.9	1652.6	1692.1	1733.6	1745.4
37.5°	1555.9	1581.5	1625.0	1666.4	1678.3
40°	1474.9	1506.5	1555.9	1599.3	1613.1
42.5°	1397.9	1431.5	1480.8	1528.2	1544.0
45°	1316.9	1348.5	1407.8	1461.1	1472.9
47.5°	1234.0	1269.6	1332.7	1386.1	1405.8
50°	1151.1	1188.6	1255.7	1311.0	1322.9
52.5°	1068.2	1107.7	1178.7	1238.0	1243.9
55°	981.3	1024.7	1099.8	1157.0	1168.9
57.5°	902.3	939.8	1020.8	1080.0	1093.8
60°	815.4	856.9	943.8	999.1	1016.8
62.5°	732.5	776.0	866.8	922.1	937.9
65°	645.6	695.0	783.8	849.0	864.8
67.5°	570.6	618.0	712.8	776.0	791.7
70°	483.7	537.0	637.7	702.9	718.7
72.5°	408.7	464.0	564.7	627.9	651.6
75°	327.8	390.9	491.6	558.8	574.6
77.5°	248.8	321.8	424.5	475.8	475.8
80°	177.7	254.7	349.5	373.2	377.1
82.5°	116.5	191.5	258.7	256.7	256.7
85°	67.1	124.4	154.0	150.1	150.1
87.5°	25.7	51.3	55.3	55.3	53.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)