

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: P311761

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CA125-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: P311761  
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-CA125-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 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**

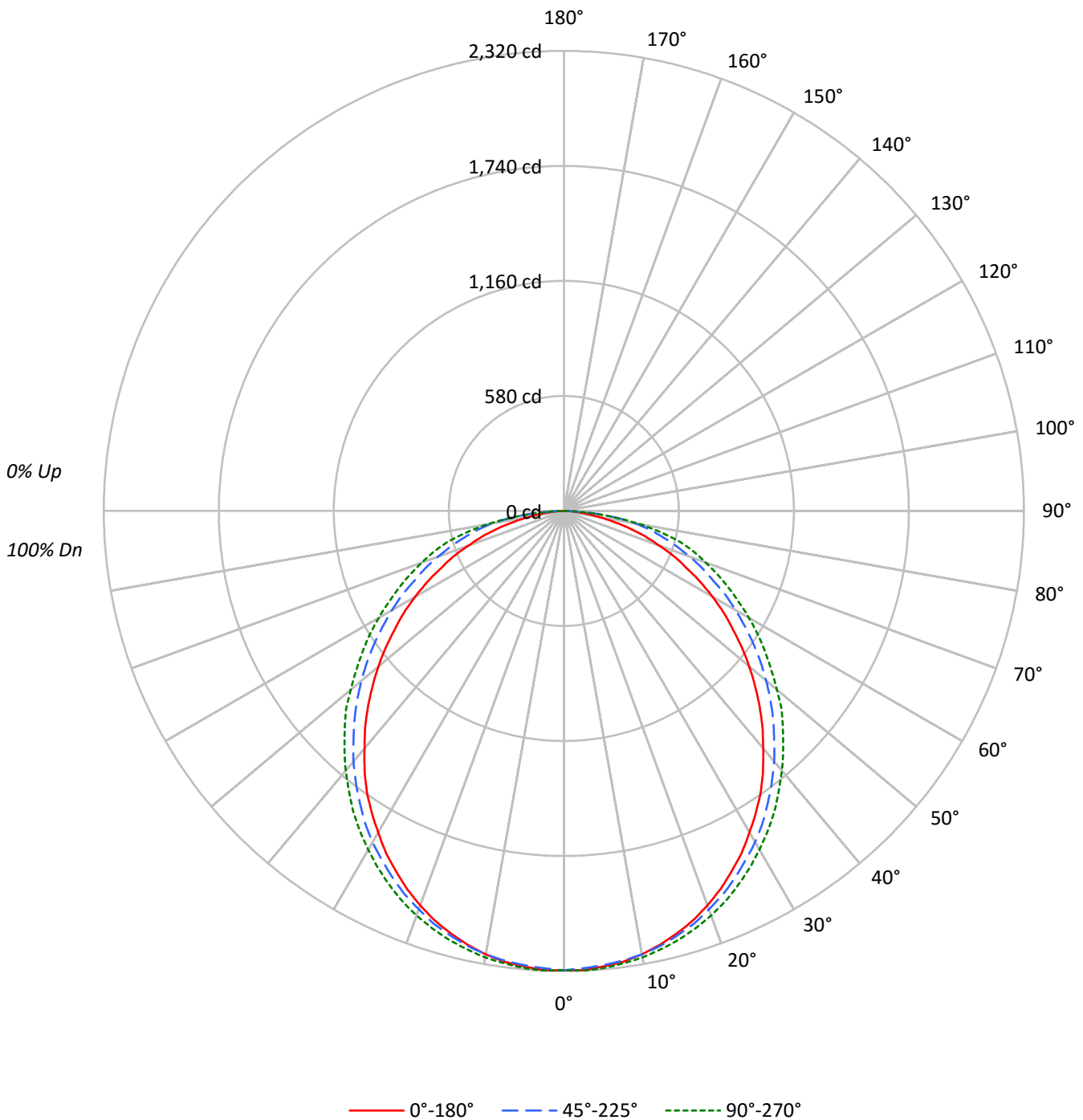
Lumens per Lamp: N/A  
Luminaire Lumens: 6592.0 lumens  
Efficiency: N/A  
Efficacy: 113.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 58  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	3116	3116	3116
5°	3114	3105	3125
10°	3101	3101	3124
15°	3071	3086	3118
20°	3031	3061	3109
25°	2975	3031	3090
30°	2908	2996	3064
35°	2844	2947	3040
40°	2747	2898	3005
45°	2657	2841	2972
50°	2555	2788	2937
55°	2441	2736	2908
60°	2327	2693	2902
65°	2180	2647	2920
70°	2018	2661	2998
75°	1807	2711	3167
80°	1460	2872	3099
85°	1099	2521	2456



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.2	3.3
10°-20°	626.4	9.5
20°-30°	941.7	14.3
30°-40°	1121.7	17.0
40°-50°	1148.0	17.4
50°-60°	1033.5	15.7
60°-70°	811.7	12.3
70°-80°	526.8	8.0
80°-90°	162.9	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°	1787.4	27.1
0°-40°	2909.1	44.1
0°-60°	5090.6	77.2
0°-90°	6592.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6592.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2316	2316	2316	2316	2316	
5°	2305	2310	2299	2312	2314	219
15°	2205	2211	2215	2234	2238	622
25°	2004	2021	2042	2075	2081	923
35°	1732	1753	1794	1838	1851	1080
45°	1397	1430	1493	1550	1562	1077
55°	1041	1087	1166	1227	1240	933
65°	685	737	831	900	917	682
75°	348	415	521	593	609	368
85°	71	132	163	159	159	86
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2315.8	2315.8	2315.8	2315.8	2315.8
2.5°	2317.9	2317.9	2307.4	2317.9	2320.0
5°	2305.3	2309.5	2299.1	2311.6	2313.7
7.5°	2292.8	2292.8	2286.5	2299.1	2301.2
10°	2269.7	2271.8	2269.7	2284.4	2286.5
12.5°	2240.4	2244.6	2246.7	2261.4	2263.5
15°	2204.8	2211.1	2215.3	2234.2	2238.3
17.5°	2165.1	2171.3	2181.8	2202.7	2206.9
20°	2116.9	2125.3	2137.8	2165.1	2171.3
22.5°	2064.5	2072.9	2093.9	2119.0	2129.5
25°	2003.8	2020.6	2041.5	2075.0	2081.3
27.5°	1943.1	1957.8	1985.0	2020.6	2029.0
30°	1871.9	1894.9	1928.4	1964.0	1972.4
32.5°	1802.8	1825.8	1865.6	1903.3	1913.8
35°	1731.6	1752.6	1794.4	1838.4	1851.0
37.5°	1650.0	1677.2	1723.2	1767.2	1779.8
40°	1564.1	1597.6	1650.0	1696.0	1710.7
42.5°	1482.5	1518.1	1570.4	1620.7	1637.4
45°	1396.6	1430.1	1492.9	1549.5	1562.0
47.5°	1308.7	1346.4	1413.4	1469.9	1490.8
50°	1220.7	1260.5	1331.7	1390.3	1402.9
52.5°	1132.8	1174.7	1250.0	1312.9	1319.1
55°	1040.6	1086.7	1166.3	1227.0	1239.6
57.5°	956.9	996.7	1082.5	1145.3	1160.0
60°	864.8	908.7	1000.9	1059.5	1078.3
62.5°	776.8	822.9	919.2	977.8	994.6
65°	684.7	737.0	831.3	900.4	917.1
67.5°	605.1	655.4	755.9	822.9	839.6
70°	513.0	569.5	676.3	745.4	762.2
72.5°	433.4	492.1	598.8	665.8	691.0
75°	347.6	414.6	521.4	592.6	609.3
77.5°	263.8	341.3	450.2	504.6	504.6
80°	188.4	270.1	370.6	395.7	399.9
82.5°	123.5	203.1	274.3	272.2	272.2
85°	71.2	131.9	163.3	159.1	159.1
87.5°	27.2	54.4	58.6	58.6	56.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)