

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: P311771

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP125-W2A-U-4000K**

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: P311771  
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-CP125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET  
Light Source: (336) 4000K 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**

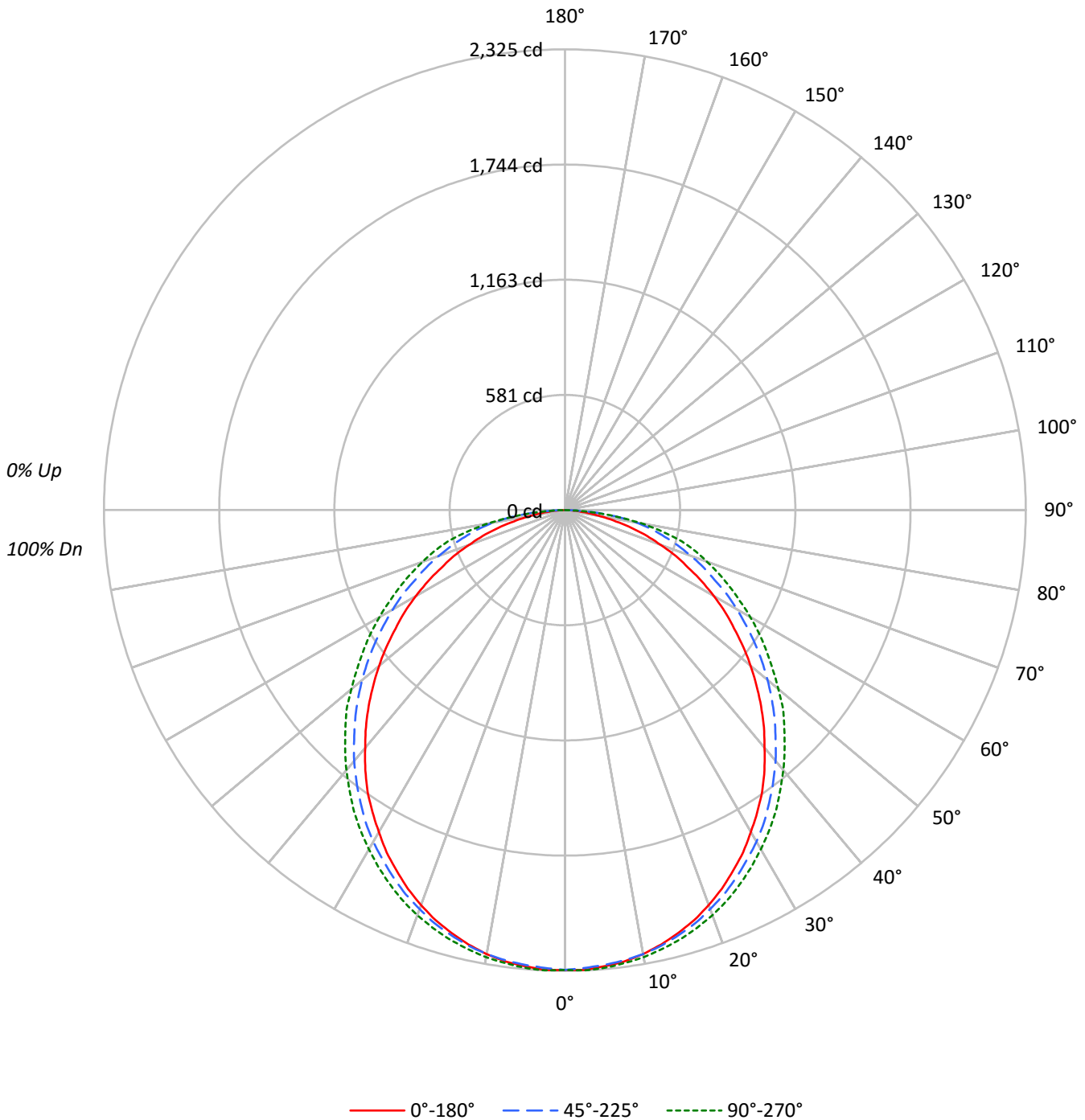
Lumens per Lamp: N/A  
Luminaire Lumens: 6606.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 58.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	3122	3122	3122
5°	3120	3112	3132
10°	3108	3108	3131
15°	3078	3092	3125
20°	3038	3068	3116
25°	2981	3037	3096
30°	2914	3002	3071
35°	2850	2954	3047
40°	2753	2904	3011
45°	2663	2847	2978
50°	2561	2793	2943
55°	2446	2742	2914
60°	2332	2699	2908
65°	2184	2652	2926
70°	2022	2666	3005
75°	1811	2716	3174
80°	1463	2878	3106
85°	1101	2527	2462



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.7	3.3
10°-20°	627.8	9.5
20°-30°	943.7	14.3
30°-40°	1124.1	17.0
40°-50°	1150.4	17.4
50°-60°	1035.7	15.7
60°-70°	813.4	12.3
70°-80°	527.9	8.0
80°-90°	163.3	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°	1791.2	27.1
0°-40°	2915.3	44.1
0°-60°	5101.4	77.2
0°-90°	6606.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6606.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2321	2321	2321	2321	2321	
5°	2310	2314	2304	2316	2319	220
15°	2210	2216	2220	2239	2243	623
25°	2008	2025	2046	2079	2086	925
35°	1735	1756	1798	1842	1855	1083
45°	1400	1433	1496	1553	1565	1079
55°	1043	1089	1169	1230	1242	935
65°	686	739	833	902	919	683
75°	348	416	522	594	611	369
85°	71	132	164	160	160	86
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2320.7	2320.7	2320.7	2320.7	2320.7
2.5°	2322.8	2322.8	2312.3	2322.8	2324.9
5°	2310.2	2314.4	2303.9	2316.5	2318.6
7.5°	2297.6	2297.6	2291.4	2303.9	2306.0
10°	2274.6	2276.7	2274.6	2289.3	2291.4
12.5°	2245.2	2249.4	2251.5	2266.2	2268.3
15°	2209.5	2215.8	2220.0	2238.9	2243.1
17.5°	2169.7	2175.9	2186.4	2207.4	2211.6
20°	2121.4	2129.8	2142.4	2169.7	2175.9
22.5°	2068.9	2077.3	2098.3	2123.5	2134.0
25°	2008.1	2024.9	2045.9	2079.4	2085.7
27.5°	1947.2	1961.9	1989.2	2024.9	2033.3
30°	1875.9	1899.0	1932.5	1968.2	1976.6
32.5°	1806.6	1829.7	1869.6	1907.4	1917.9
35°	1735.3	1756.3	1798.3	1842.3	1854.9
37.5°	1653.5	1680.7	1726.9	1771.0	1783.6
40°	1567.4	1601.0	1653.5	1699.6	1714.3
42.5°	1485.6	1521.3	1573.7	1624.1	1640.9
45°	1399.6	1433.1	1496.1	1552.7	1565.3
47.5°	1311.4	1349.2	1416.4	1473.0	1494.0
50°	1223.3	1263.2	1334.5	1393.3	1405.9
52.5°	1135.2	1177.2	1252.7	1315.6	1321.9
55°	1042.9	1089.0	1168.8	1229.6	1242.2
57.5°	958.9	998.8	1084.8	1147.8	1162.5
60°	866.6	910.7	1003.0	1061.7	1080.6
62.5°	778.5	824.6	921.2	979.9	996.7
65°	686.1	738.6	833.0	902.3	919.1
67.5°	606.4	656.8	757.5	824.6	841.4
70°	514.1	570.7	677.8	747.0	763.8
72.5°	434.4	493.1	600.1	667.3	692.4
75°	348.3	415.5	522.5	593.8	610.6
77.5°	264.4	342.0	451.1	505.7	505.7
80°	188.8	270.7	371.4	396.6	400.8
82.5°	123.8	203.5	274.9	272.8	272.8
85°	71.3	132.2	163.7	159.5	159.5
87.5°	27.3	54.6	58.8	58.8	56.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)