

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: P311799

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-S-CA08-W2A-U-4500K**

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: P311799  
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: 24FCZ2-75HE-UNV-L82765-S-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 4500K 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**

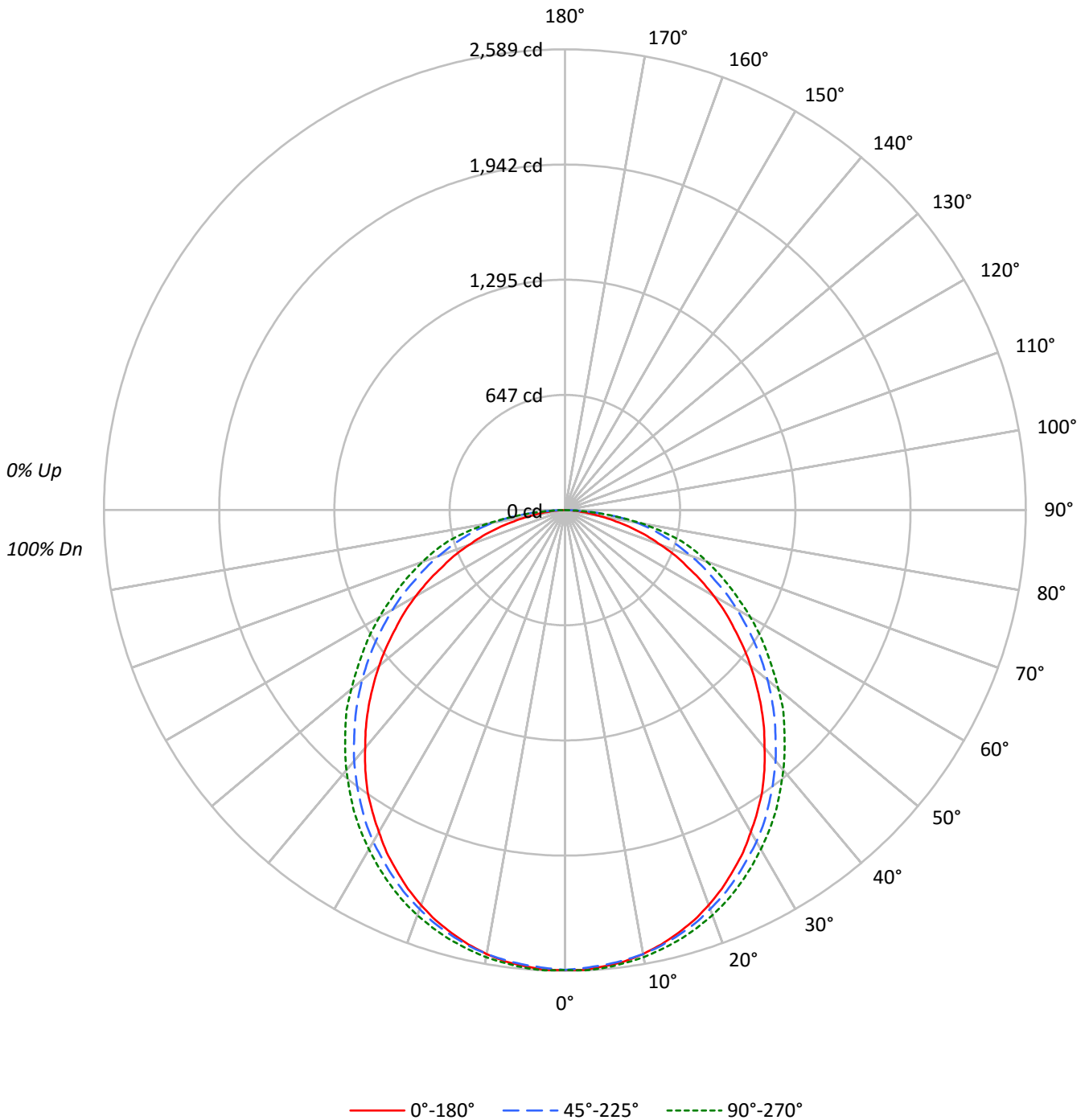
Lumens per Lamp: N/A  
Luminaire Lumens: 7356.0 lumens  
Efficiency: N/A  
Efficacy: 114.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	3477	3477	3477
5°	3474	3465	3487
10°	3460	3460	3486
15°	3427	3444	3479
20°	3382	3416	3469
25°	3320	3382	3448
30°	3245	3343	3420
35°	3174	3289	3393
40°	3066	3234	3353
45°	2966	3170	3317
50°	2851	3111	3277
55°	2724	3053	3245
60°	2597	3006	3238
65°	2432	2953	3258
70°	2252	2969	3346
75°	2017	3025	3535
80°	1629	3205	3458
85°	1226	2813	2742



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	244.6	3.3
10°-20°	699.1	9.5
20°-30°	1050.8	14.3
30°-40°	1251.7	17.0
40°-50°	1281.1	17.4
50°-60°	1153.3	15.7
60°-70°	905.7	12.3
70°-80°	587.8	8.0
80°-90°	181.8	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°	1994.5	27.1
0°-40°	3246.2	44.1
0°-60°	5680.7	77.2
0°-90°	7356.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7356.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2584	2584	2584	2584	2584	
5°	2572	2577	2566	2580	2582	244
15°	2460	2467	2472	2493	2498	694
25°	2236	2255	2278	2316	2322	1030
35°	1932	1956	2002	2052	2066	1205
45°	1558	1596	1666	1729	1743	1202
55°	1161	1213	1302	1369	1383	1041
65°	764	822	928	1005	1023	761
75°	388	463	582	661	680	410
85°	79	147	182	178	178	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2584.2	2584.2	2584.2	2584.2	2584.2
2.5°	2586.5	2586.5	2574.9	2586.5	2588.9
5°	2572.5	2577.2	2565.5	2579.5	2581.9
7.5°	2558.5	2558.5	2551.5	2565.5	2567.9
10°	2532.8	2535.1	2532.8	2549.2	2551.5
12.5°	2500.1	2504.8	2507.1	2523.5	2525.8
15°	2460.4	2467.4	2472.1	2493.1	2497.8
17.5°	2416.0	2423.0	2434.7	2458.0	2462.7
20°	2362.2	2371.6	2385.6	2416.0	2423.0
22.5°	2303.8	2313.2	2336.5	2364.6	2376.3
25°	2236.1	2254.8	2278.1	2315.5	2322.5
27.5°	2168.3	2184.7	2215.0	2254.8	2264.1
30°	2088.9	2114.6	2152.0	2191.7	2201.0
32.5°	2011.8	2037.5	2081.9	2123.9	2135.6
35°	1932.3	1955.7	2002.4	2051.5	2065.5
37.5°	1841.2	1871.6	1923.0	1972.0	1986.1
40°	1745.4	1782.8	1841.2	1892.6	1909.0
42.5°	1654.3	1694.0	1752.4	1808.5	1827.2
45°	1558.5	1595.9	1666.0	1729.0	1743.1
47.5°	1460.3	1502.4	1577.2	1640.2	1663.6
50°	1362.2	1406.6	1486.0	1551.5	1565.5
52.5°	1264.1	1310.8	1394.9	1465.0	1472.0
55°	1161.3	1212.7	1301.5	1369.2	1383.2
57.5°	1067.8	1112.2	1208.0	1278.1	1294.4
60°	965.0	1014.1	1116.9	1182.3	1203.3
62.5°	866.9	918.3	1025.7	1091.2	1109.9
65°	764.0	822.5	927.6	1004.7	1023.4
67.5°	675.3	731.3	843.5	918.3	937.0
70°	572.5	635.5	754.7	831.8	850.5
72.5°	483.7	549.1	668.2	743.0	771.1
75°	387.9	462.6	581.8	661.2	679.9
77.5°	294.4	380.9	502.4	563.1	563.1
80°	210.3	301.4	413.6	441.6	446.3
82.5°	137.9	226.6	306.1	303.7	303.7
85°	79.4	147.2	182.2	177.6	177.6
87.5°	30.4	60.7	65.4	65.4	63.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)