

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: P312831

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-CP187-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: P312831  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-34HE-UNV-L83050-CP187-W2A-U-3500K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 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**

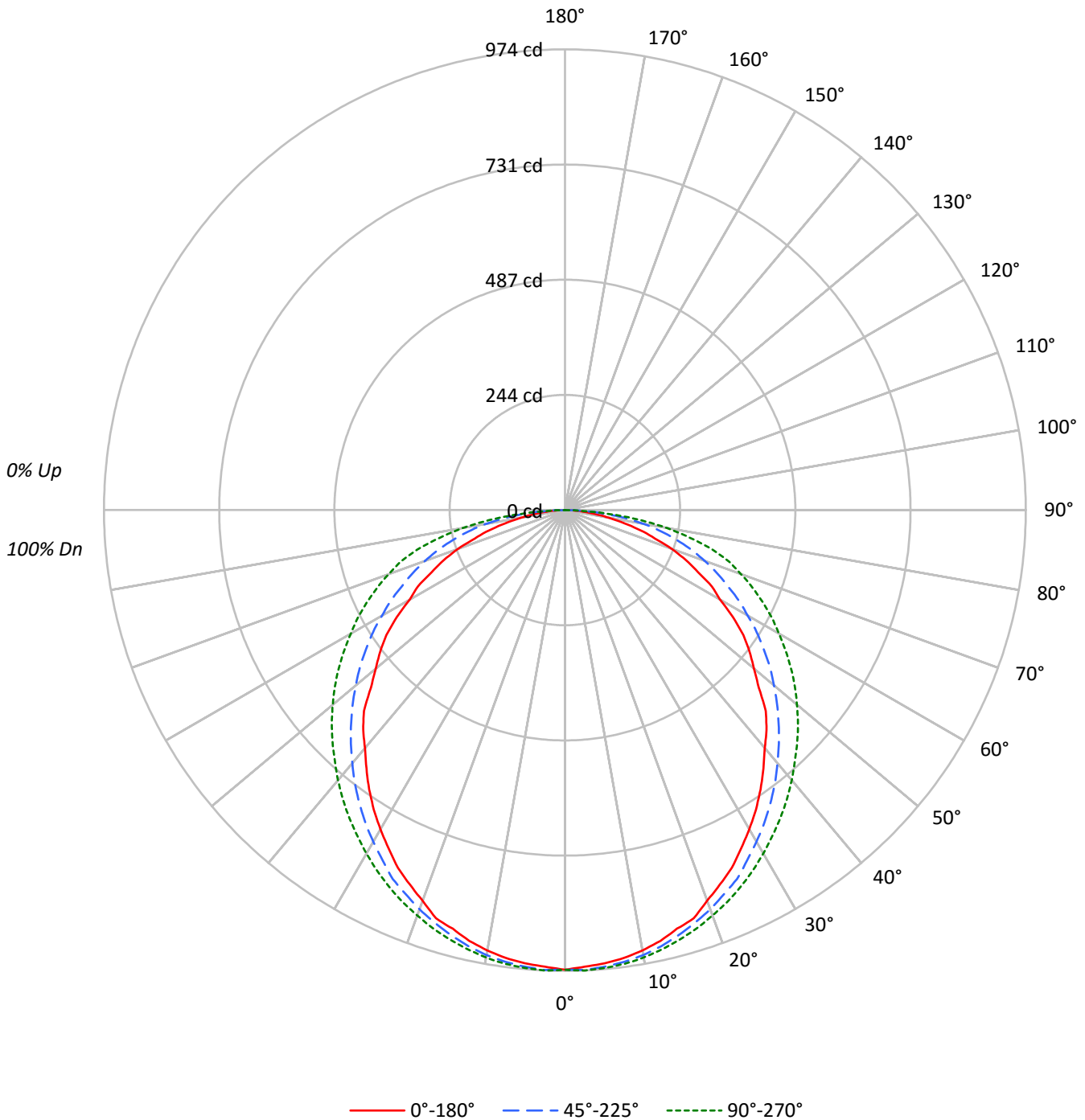
Lumens per Lamp: N/A  
Luminaire Lumens: 2896.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 27.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2615	2615	2615
5°	2598	2617	2625
10°	2583	2610	2625
15°	2552	2591	2618
20°	2517	2572	2612
25°	2477	2556	2609
30°	2421	2515	2606
35°	2368	2486	2609
40°	2308	2454	2620
45°	2284	2432	2643
50°	2182	2414	2681
55°	2159	2406	2738
60°	2037	2402	2812
65°	1977	2418	2939
70°	1898	2475	3119
75°	1729	2550	3358
80°	1481	2642	3394
85°	1198	2526	2912



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.9	3.2
10°-20°	262.3	9.1
20°-30°	394.7	13.6
30°-40°	473.8	16.4
40°-50°	495.2	17.1
50°-60°	461.5	15.9
60°-70°	378.5	13.1
70°-80°	255.0	8.8
80°-90°	83.1	2.9
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°	749.0	25.9
0°-40°	1222.7	42.2
0°-60°	2179.4	75.3
0°-90°	2896.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2896.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	972	972	972	972	972	
5°	962	965	969	970	972	91
15°	916	922	930	938	940	259
25°	834	840	861	873	879	384
35°	721	730	757	783	794	451
45°	600	604	639	678	694	458
55°	460	468	513	561	584	408
65°	310	324	380	435	462	309
75°	166	184	245	301	323	175
85°	39	55	82	96	94	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	971.6	971.6	971.6	971.6	971.6
2.5°	966.1	968.9	973.0	974.4	974.4
5°	961.9	964.7	968.9	970.2	971.6
7.5°	955.0	957.8	963.3	966.1	967.5
10°	945.3	948.1	955.0	959.2	960.5
12.5°	932.8	935.6	943.9	949.5	950.8
15°	916.2	921.7	930.1	938.4	939.8
17.5°	905.1	903.7	914.8	924.5	927.3
20°	878.8	885.7	898.2	909.3	912.0
22.5°	856.6	862.1	878.8	891.2	896.8
25°	834.4	840.0	860.7	873.2	878.8
27.5°	806.7	815.0	834.4	852.4	859.4
30°	779.0	787.3	809.5	830.3	838.6
32.5°	751.2	761.0	784.5	806.7	816.4
35°	720.8	730.5	756.8	783.1	794.2
37.5°	688.9	701.3	729.1	758.2	770.7
40°	657.0	669.5	698.6	731.8	745.7
42.5°	630.7	636.2	669.5	705.5	719.4
45°	600.2	604.3	639.0	677.8	694.4
47.5°	555.8	571.1	608.5	651.5	668.1
50°	521.2	537.8	576.6	622.3	640.4
52.5°	492.1	503.1	546.1	591.9	612.6
55°	460.2	468.5	512.8	561.4	583.5
57.5°	421.4	436.6	481.0	530.9	553.0
60°	378.4	397.8	446.3	500.4	522.5
62.5°	350.7	361.8	414.4	468.5	493.4
65°	310.5	324.3	379.8	435.2	461.6
67.5°	277.2	291.1	347.9	403.3	429.7
70°	241.2	255.0	314.6	370.1	396.4
72.5°	199.6	219.0	281.4	336.8	364.5
75°	166.3	184.3	245.3	300.8	323.0
77.5°	128.9	152.5	209.3	255.0	271.7
80°	95.6	119.2	170.5	203.8	219.0
82.5°	65.1	88.7	127.5	152.5	160.8
85°	38.8	55.4	81.8	95.6	94.3
87.5°	18.0	23.6	33.3	33.3	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)