

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: P312830

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-CP187-W2A-U-3000K**

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: P312830  
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-3000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 3000K 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: 2737.0 lumens  
Efficiency: N/A  
Efficacy: 99.5 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

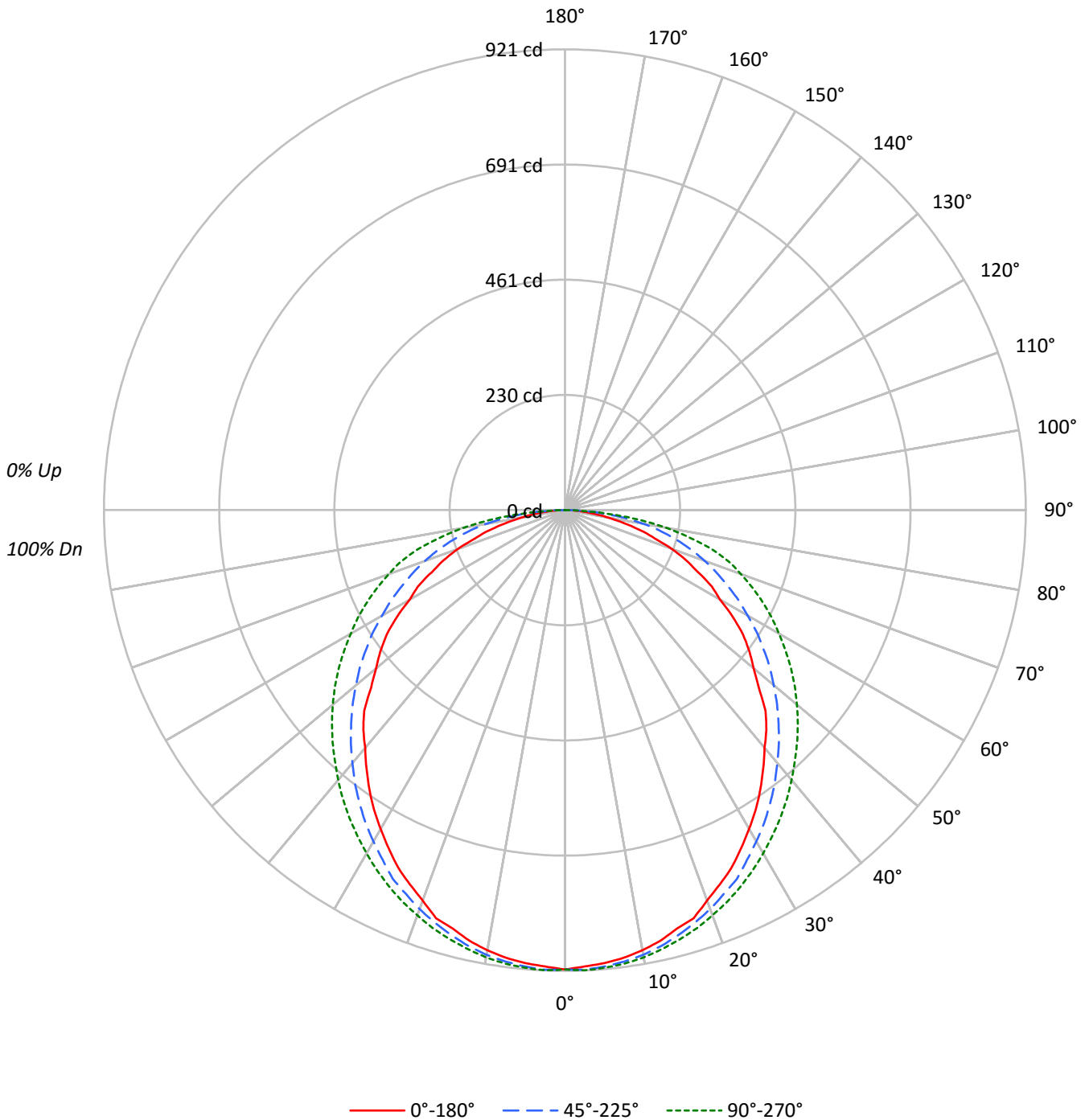
Input Watts (W): 27.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	100	100	100	100	100		
	1	108	103	98	94	105	100	96	92	96	93	90	92	89	87	89	86	84	82	82	82	82	82	82		
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67	67	67	67	67	67		
	3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56	56	56	56	56	56		
	4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48	48	48	48	48	48		
	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41	41	41	41	41	41		
	6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36	36	36	36	36	36		
	7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32	32	32	32	32	32		
	8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28	28	28	28	28	28		
	9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25	25	25	25	25	25		
	10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23	23	23	23	23	23		

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

	0°	45°	90°
0°	2471	2471	2471
5°	2456	2474	2481
10°	2441	2466	2481
15°	2412	2449	2474
20°	2378	2431	2468
25°	2341	2415	2466
30°	2288	2377	2463
35°	2238	2349	2466
40°	2181	2319	2476
45°	2159	2298	2498
50°	2062	2281	2534
55°	2040	2274	2587
60°	1925	2270	2658
65°	1868	2285	2777
70°	1793	2340	2948
75°	1634	2411	3173
80°	1401	2497	3208
85°	1133	2387	2751



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.9	3.2
10°-20°	247.9	9.1
20°-30°	373.1	13.6
30°-40°	447.8	16.4
40°-50°	468.0	17.1
50°-60°	436.1	15.9
60°-70°	357.7	13.1
70°-80°	241.0	8.8
80°-90°	78.5	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°	707.8	25.9
0°-40°	1155.6	42.2
0°-60°	2059.7	75.3
0°-90°	2737.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2737.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	918	918	918	918	918	
5°	909	912	916	917	918	86
15°	866	871	879	887	888	245
25°	789	794	814	825	830	363
35°	681	690	715	740	751	426
45°	567	571	604	641	656	433
55°	435	443	485	530	552	385
65°	293	306	359	411	436	292
75°	157	174	232	284	305	165
85°	37	52	77	90	89	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	918.3	918.3	918.3	918.3	918.3
2.5°	913.0	915.7	919.6	920.9	920.9
5°	909.1	911.7	915.7	917.0	918.3
7.5°	902.6	905.2	910.4	913.0	914.4
10°	893.4	896.0	902.6	906.5	907.8
12.5°	881.6	884.2	892.1	897.3	898.6
15°	865.9	871.1	879.0	886.8	888.2
17.5°	855.4	854.1	864.6	873.7	876.4
20°	830.5	837.1	848.9	859.3	862.0
22.5°	809.6	814.8	830.5	842.3	847.5
25°	788.6	793.8	813.5	825.3	830.5
27.5°	762.4	770.3	788.6	805.6	812.2
30°	736.2	744.1	765.0	784.7	792.5
32.5°	710.0	719.2	741.4	762.4	771.6
35°	681.2	690.4	715.2	740.1	750.6
37.5°	651.1	662.8	689.0	716.6	728.3
40°	620.9	632.7	660.2	691.7	704.8
42.5°	596.0	601.3	632.7	666.8	679.9
45°	567.2	571.1	603.9	640.6	656.3
47.5°	525.3	539.7	575.1	615.7	631.4
50°	492.5	508.3	544.9	588.2	605.2
52.5°	465.0	475.5	516.1	559.4	579.0
55°	434.9	442.8	484.7	530.5	551.5
57.5°	398.2	412.6	454.6	501.7	522.7
60°	357.6	376.0	421.8	472.9	493.9
62.5°	331.4	341.9	391.7	442.8	466.3
65°	293.4	306.5	358.9	411.3	436.2
67.5°	262.0	275.1	328.8	381.2	406.1
70°	227.9	241.0	297.4	349.8	374.7
72.5°	188.6	207.0	265.9	318.3	344.5
75°	157.2	174.2	231.9	284.3	305.2
77.5°	121.8	144.1	197.8	241.0	256.8
80°	90.4	112.7	161.1	192.6	207.0
82.5°	61.6	83.8	120.5	144.1	152.0
85°	36.7	52.4	77.3	90.4	89.1
87.5°	17.0	22.3	31.4	31.4	30.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)