

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: P313082

Luminaire Tested: **24FCZ2-30-UNV-L83050-HRP-CP187-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: P313082  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-30-UNV-L83050-HRP-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (168) 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: 2116.0 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

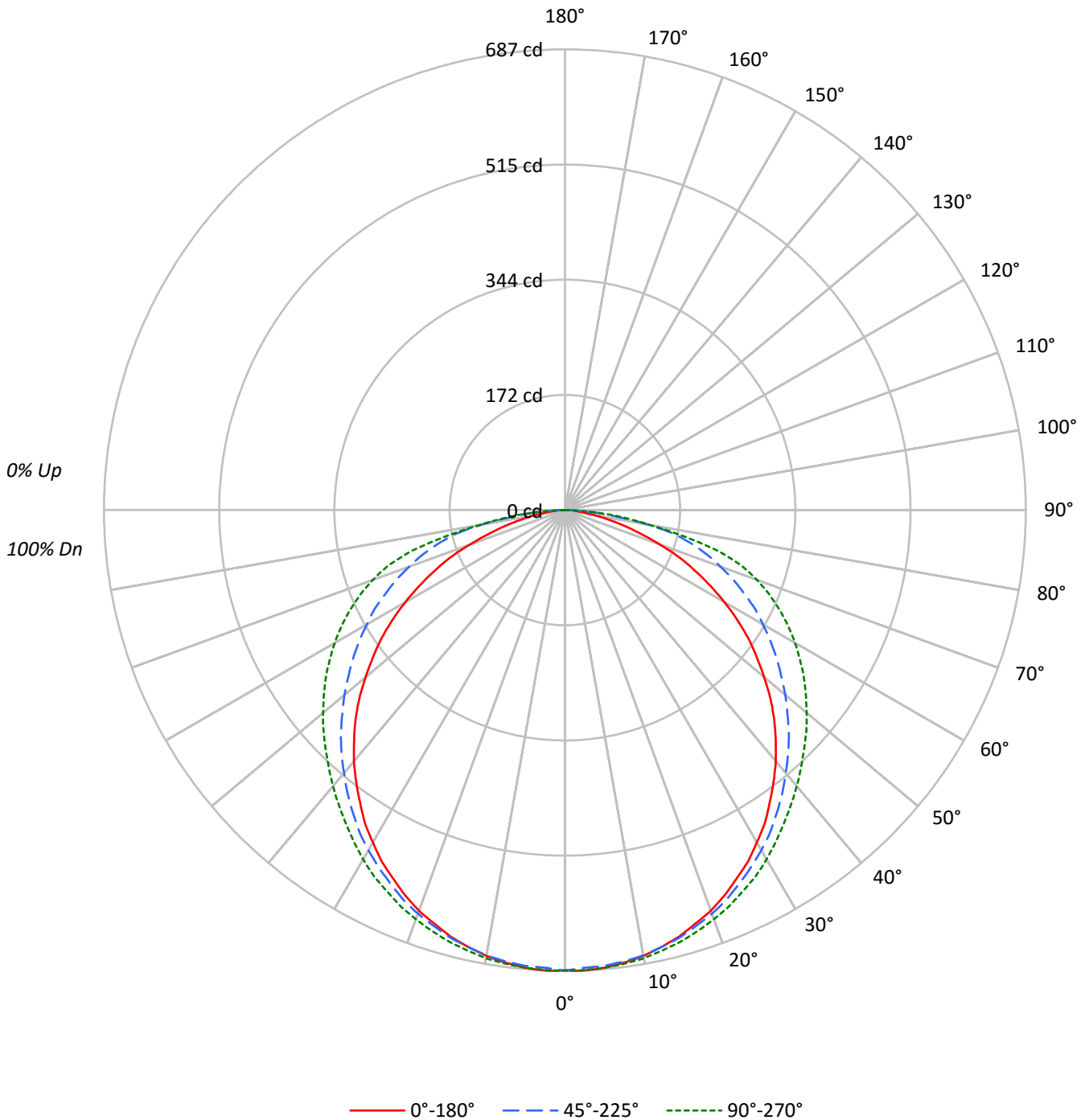
Input Watts (W): 23.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	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	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	924	924	924
5°	925	921	925
10°	922	921	927
15°	917	919	928
20°	911	917	930
25°	900	913	931
30°	889	910	935
35°	874	905	936
40°	859	899	944
45°	840	899	959
50°	812	898	985
55°	783	904	1020
60°	739	918	1066
65°	683	939	1125
70°	596	972	1199
75°	483	1023	1239
80°	357	1002	1002
85°	273	738	834



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.0	3.1
10°-20°	186.8	8.8
20°-30°	284.3	13.4
30°-40°	345.2	16.3
40°-50°	364.7	17.2
50°-60°	344.2	16.3
60°-70°	286.2	13.5
70°-80°	188.3	8.9
80°-90°	51.3	2.4
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°	536.1	25.3
0°-40°	881.3	41.7
0°-60°	1590.3	75.2
0°-90°	2116.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2116.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	686	686	686	686	686	
5°	685	685	682	685	685	65
15°	658	659	660	666	666	186
25°	606	610	615	625	627	280
35°	532	539	551	565	570	333
45°	441	450	472	495	504	340
55°	334	348	385	422	435	297
65°	214	239	295	338	354	212
75°	93	136	197	233	238	100
85°	18	39	48	53	54	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	686.5	686.5	686.5	686.5	686.5
2.5°	687.4	686.5	683.0	686.5	686.5
5°	684.8	684.8	682.1	684.8	684.8
7.5°	680.3	680.3	678.6	682.1	682.1
10°	675.0	675.0	674.1	678.6	678.6
12.5°	667.0	667.9	667.0	672.4	672.4
15°	658.2	659.1	660.0	666.2	666.2
17.5°	646.7	648.4	650.2	657.3	658.2
20°	636.0	636.9	640.5	648.4	649.3
22.5°	621.9	624.5	629.0	636.9	639.6
25°	605.9	609.5	614.8	625.4	627.2
27.5°	590.9	593.5	600.6	612.1	615.7
30°	572.3	576.7	585.6	597.1	601.5
32.5°	554.5	559.0	569.6	582.0	585.6
35°	532.4	538.6	551.0	565.2	569.6
37.5°	511.1	517.3	532.4	548.3	553.7
40°	489.0	496.1	512.0	530.6	537.7
42.5°	465.1	474.8	492.5	512.9	520.9
45°	441.2	450.0	472.2	495.2	504.1
47.5°	415.5	426.1	450.0	477.5	488.1
50°	388.0	401.3	428.8	458.9	470.4
52.5°	360.5	375.6	406.6	440.3	452.7
55°	334.0	348.1	385.3	421.7	435.0
57.5°	304.7	322.5	363.2	402.2	415.5
60°	274.6	294.1	341.1	381.8	396.0
62.5°	244.5	266.6	319.8	360.5	375.6
65°	214.4	239.2	295.0	338.4	353.5
67.5°	185.1	212.6	272.0	315.4	330.4
70°	151.5	186.0	247.2	289.7	304.7
72.5°	120.5	160.3	223.2	263.1	276.4
75°	93.0	135.5	196.7	233.0	238.3
77.5°	68.2	110.7	169.2	181.6	182.5
80°	46.1	88.6	129.3	127.6	129.3
82.5°	30.1	66.4	81.5	91.2	92.1
85°	17.7	39.0	47.8	53.2	54.0
87.5°	8.9	13.3	16.8	17.7	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)