

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: P313089

Luminaire Tested: **24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-5000K**

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: P313089  
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-CP250-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (168) 5000K 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: 2119.0 lumens  
Efficiency: N/A  
Efficacy: 86.5 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

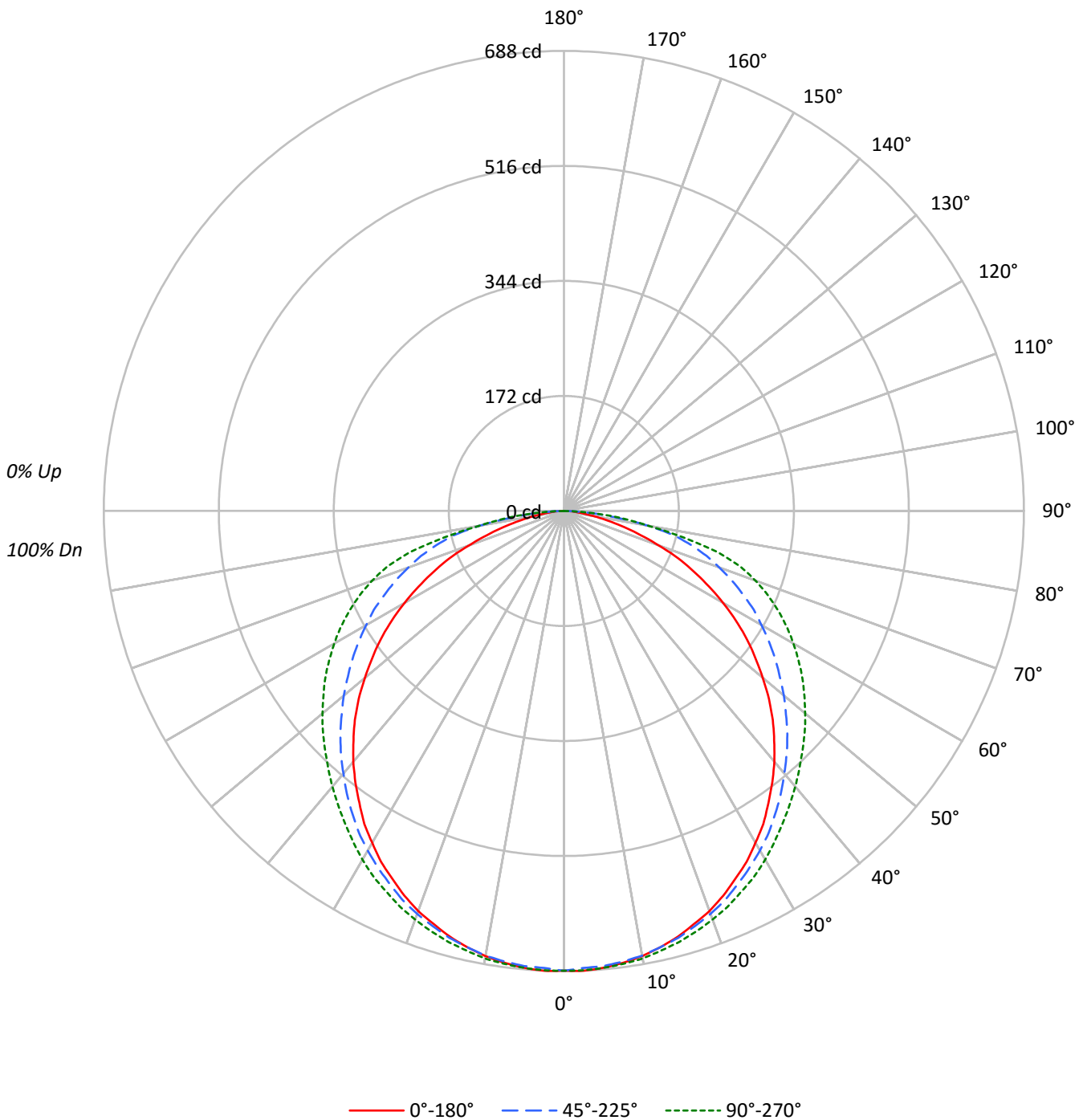
Input Watts (W): 24.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	925	925	925
5°	926	923	926
10°	924	922	928
15°	918	921	929
20°	912	918	931
25°	901	914	932
30°	890	911	936
35°	876	906	937
40°	860	901	946
45°	841	900	961
50°	813	899	986
55°	784	905	1022
60°	740	919	1067
65°	684	940	1127
70°	597	974	1201
75°	484	1024	1240
80°	357	1003	1003
85°	273	739	835



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.1	3.1
10°-20°	187.0	8.8
20°-30°	284.7	13.4
30°-40°	345.7	16.3
40°-50°	365.3	17.2
50°-60°	344.7	16.3
60°-70°	286.6	13.5
70°-80°	188.5	8.9
80°-90°	51.4	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°	536.9	25.3
0°-40°	882.6	41.7
0°-60°	1592.5	75.2
0°-90°	2119.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2119.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	686	686	683	686	686	65
15°	659	660	661	667	667	186
25°	607	610	616	626	628	280
35°	533	539	552	566	570	334
45°	442	451	473	496	505	340
55°	334	349	386	422	436	298
65°	215	240	295	339	354	212
75°	93	136	197	233	239	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°	687.5	687.5	687.5	687.5	687.5
2.5°	688.4	687.5	684.0	687.5	687.5
5°	685.7	685.7	683.1	685.7	685.7
7.5°	681.3	681.3	679.5	683.1	683.1
10°	676.0	676.0	675.1	679.5	679.5
12.5°	668.0	668.9	668.0	673.3	673.3
15°	659.1	660.0	660.9	667.1	667.1
17.5°	647.6	649.4	651.1	658.2	659.1
20°	636.9	637.8	641.4	649.4	650.3
22.5°	622.8	625.4	629.8	637.8	640.5
25°	606.8	610.3	615.7	626.3	628.1
27.5°	591.7	594.4	601.5	613.0	616.5
30°	573.1	577.5	586.4	597.9	602.3
32.5°	555.3	559.8	570.4	582.8	586.4
35°	533.2	539.4	551.8	566.0	570.4
37.5°	511.9	518.1	533.2	549.1	554.4
40°	489.7	496.8	512.8	531.4	538.5
42.5°	465.7	475.5	493.2	513.6	521.6
45°	441.8	450.7	472.8	495.9	504.8
47.5°	416.1	426.7	450.7	478.2	488.8
50°	388.6	401.9	429.4	459.5	471.1
52.5°	361.1	376.1	407.2	440.9	453.3
55°	334.4	348.6	385.9	422.3	435.6
57.5°	305.2	322.9	363.7	402.7	416.1
60°	275.0	294.5	341.5	382.3	396.5
62.5°	244.8	267.0	320.2	361.1	376.1
65°	214.7	239.5	295.4	338.9	354.0
67.5°	185.4	212.9	272.3	315.8	330.9
70°	151.7	186.3	247.5	290.1	305.2
72.5°	120.6	160.6	223.6	263.5	276.8
75°	93.1	135.7	196.9	233.3	238.6
77.5°	68.3	110.9	169.4	181.9	182.7
80°	46.1	88.7	129.5	127.7	129.5
82.5°	30.2	66.5	81.6	91.4	92.3
85°	17.7	39.0	47.9	53.2	54.1
87.5°	8.9	13.3	16.9	17.7	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)