

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: P313455

Luminaire Tested: **24FCZ2-30-UNV-L83050-RDP-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: P313455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1649.0 lumens
Efficiency: N/A
Efficacy: 70.5 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

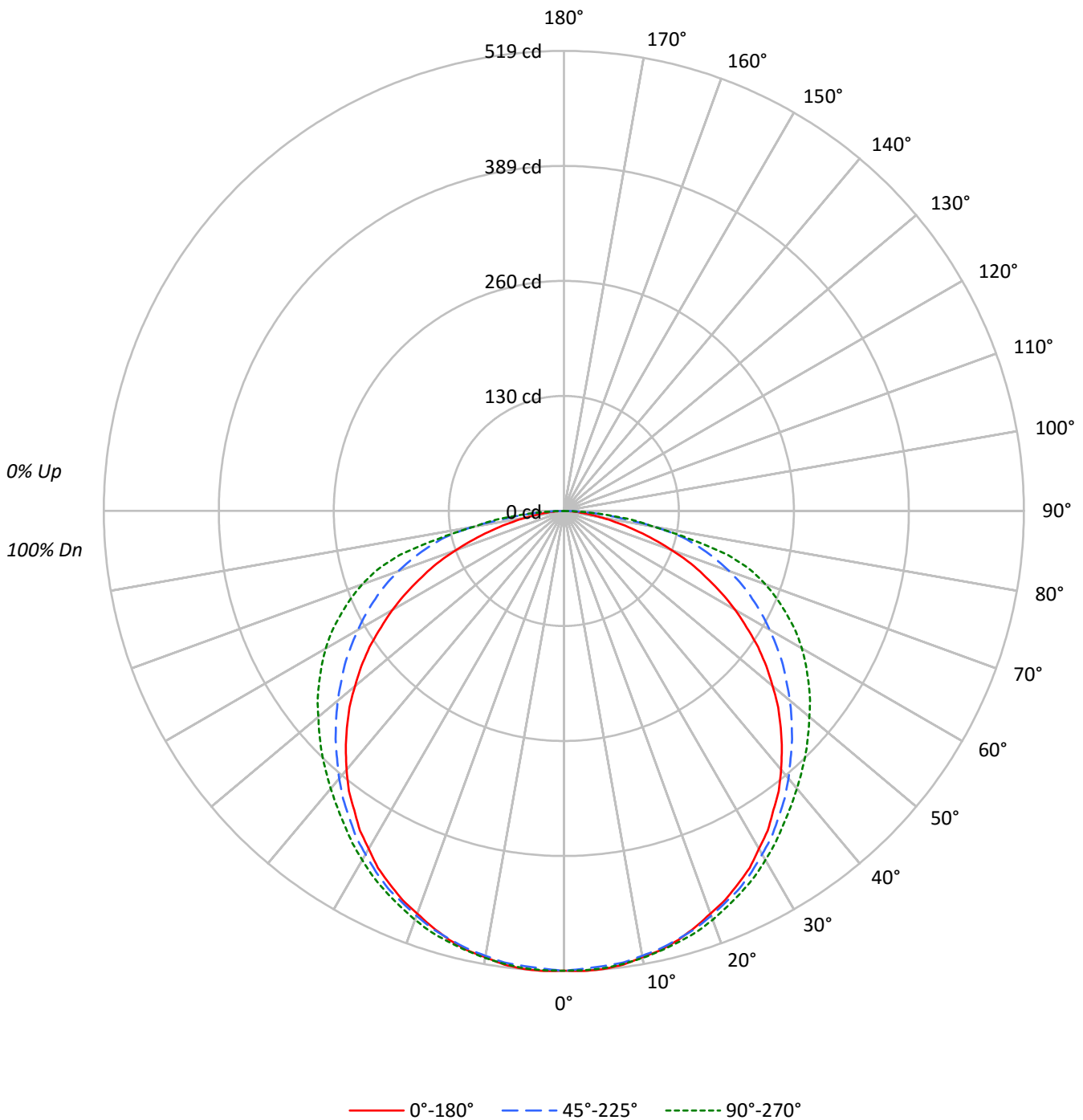
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	698	698	698
5°	700	696	699
10°	698	696	700
15°	697	696	701
20°	692	696	703
25°	690	697	704
30°	684	695	707
35°	677	693	709
40°	670	692	718
45°	658	693	735
50°	644	697	757
55°	627	708	791
60°	601	722	834
65°	563	747	885
70°	511	782	952
75°	434	825	995
80°	342	830	805
85°	253	631	707



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.2	3.0
10°-20°	141.6	8.6
20°-30°	216.5	13.1
30°-40°	264.7	16.0
40°-50°	282.1	17.1
50°-60°	269.7	16.4
60°-70°	228.5	13.9
70°-80°	153.6	9.3
80°-90°	43.3	2.6
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°	407.3	24.7
0°-40°	671.9	40.7
0°-60°	1223.7	74.2
0°-90°	1649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1649.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	519	519	519	519	519	
5°	519	518	515	518	518	49
15°	501	501	500	504	503	141
25°	465	466	470	474	474	214
35°	412	416	422	430	432	258
45°	346	352	364	380	386	267
55°	268	277	302	326	337	238
65°	177	195	235	266	278	175
75°	83	114	159	186	191	89
85°	16	34	41	44	46	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	518.6	518.6	518.6	518.6	518.6
2.5°	519.4	519.4	516.9	518.6	518.6
5°	518.6	517.7	515.3	517.7	517.7
7.5°	516.1	515.3	513.7	516.1	515.3
10°	511.2	511.2	509.6	512.0	512.0
12.5°	507.1	506.3	505.5	508.7	507.9
15°	500.6	500.6	499.8	503.8	503.0
17.5°	492.4	493.2	494.0	497.3	498.1
20°	483.4	485.0	485.8	490.8	490.8
22.5°	475.2	476.0	477.7	482.6	482.6
25°	464.6	466.2	469.5	473.6	474.4
27.5°	453.9	454.8	458.9	464.6	465.4
30°	440.0	442.5	447.4	453.9	454.8
32.5°	427.8	430.2	436.0	442.5	444.1
35°	412.2	415.5	422.0	430.2	431.9
37.5°	398.3	400.8	409.0	418.0	420.4
40°	381.2	386.1	394.2	404.9	409.0
42.5°	364.0	368.9	378.7	392.6	397.5
45°	346.0	351.7	364.0	379.5	386.1
47.5°	328.0	334.5	348.4	366.4	373.8
50°	307.5	315.7	332.9	353.3	361.5
52.5°	287.9	297.7	316.5	339.4	350.1
55°	267.5	277.3	301.8	325.5	337.0
57.5°	244.6	257.6	284.6	311.6	323.9
60°	223.3	235.6	268.3	297.7	310.0
62.5°	200.4	216.7	251.9	283.0	295.3
65°	176.7	194.7	234.7	265.8	278.1
67.5°	155.4	175.0	217.6	248.6	260.9
70°	130.0	154.6	198.8	229.8	242.1
72.5°	106.3	133.3	179.1	209.4	220.8
75°	83.4	113.7	158.7	185.7	191.4
77.5°	62.2	94.1	137.4	148.9	144.8
80°	44.2	75.2	107.1	101.4	103.9
82.5°	28.6	57.3	66.3	75.2	77.7
85°	16.4	33.5	40.9	44.2	45.8
87.5°	7.4	12.3	16.4	16.4	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)