

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: P309889

Luminaire Tested: **24FCZ2-30-UNV-L82765-RDP-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: P309889  
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-L82765-RDP-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1704.0 lumens  
Efficiency: N/A  
Efficacy: 72.5 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

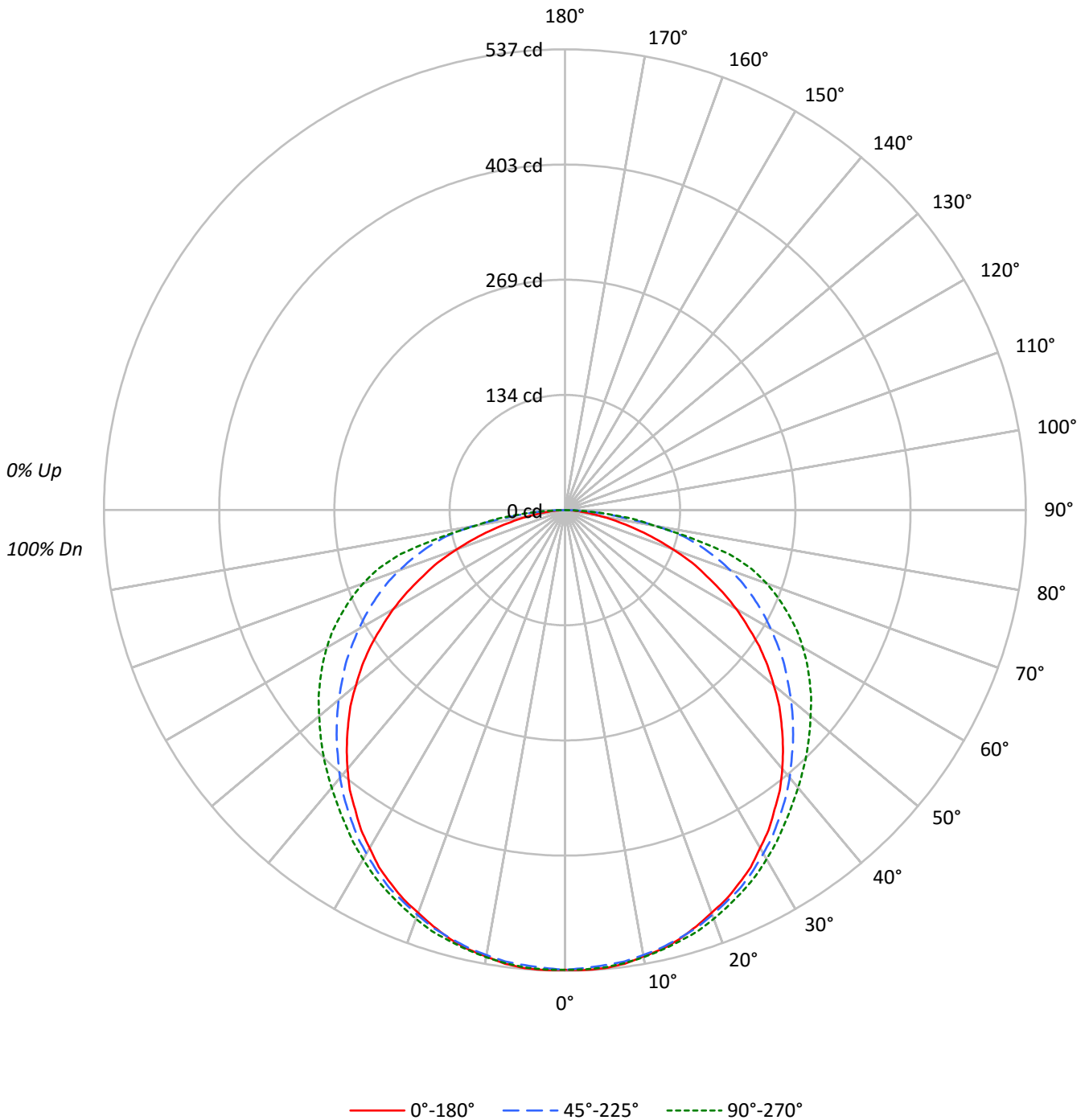
Input Watts (W): 23.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	721	721	721
5°	724	719	723
10°	722	719	723
15°	721	719	724
20°	715	719	726
25°	713	720	728
30°	706	718	730
35°	700	716	733
40°	692	716	742
45°	680	716	759
50°	665	720	782
55°	648	732	817
60°	621	746	862
65°	581	772	915
70°	529	808	984
75°	448	853	1028
80°	353	858	831
85°	261	653	730



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.8	3.0
10°-20°	146.3	8.6
20°-30°	223.7	13.1
30°-40°	273.5	16.0
40°-50°	291.5	17.1
50°-60°	278.7	16.4
60°-70°	236.1	13.9
70°-80°	158.7	9.3
80°-90°	44.8	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°	420.8	24.7
0°-40°	694.3	40.7
0°-60°	1264.5	74.2
0°-90°	1704.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1704.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	536	536	536	536	536	
5°	536	535	532	535	535	51
15°	517	517	516	521	520	146
25°	480	482	485	489	490	221
35°	426	429	436	445	446	267
45°	358	363	376	392	399	276
55°	276	286	312	336	348	246
65°	183	201	243	275	287	181
75°	86	118	164	192	198	92
85°	17	35	42	46	47	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	535.9	535.9	535.9	535.9	535.9
2.5°	536.7	536.7	534.2	535.9	535.9
5°	535.9	535.0	532.5	535.0	535.0
7.5°	533.3	532.5	530.8	533.3	532.5
10°	528.3	528.3	526.6	529.1	529.1
12.5°	524.0	523.2	522.3	525.7	524.9
15°	517.3	517.3	516.4	520.6	519.8
17.5°	508.8	509.7	510.5	513.9	514.7
20°	499.5	501.2	502.1	507.1	507.1
22.5°	491.1	491.9	493.6	498.7	498.7
25°	480.1	481.8	485.1	489.4	490.2
27.5°	469.1	469.9	474.2	480.1	480.9
30°	454.7	457.3	462.3	469.1	469.9
32.5°	442.0	444.6	450.5	457.3	458.9
35°	426.0	429.4	436.1	444.6	446.3
37.5°	411.6	414.1	422.6	431.9	434.4
40°	393.9	398.9	407.4	418.4	422.6
42.5°	376.1	381.2	391.3	405.7	410.8
45°	357.5	363.4	376.1	392.2	398.9
47.5°	338.9	345.7	360.1	378.7	386.3
50°	317.8	326.2	344.0	365.1	373.6
52.5°	297.5	307.7	327.1	350.8	361.7
55°	276.4	286.5	311.9	336.4	348.2
57.5°	252.7	266.2	294.1	322.0	334.7
60°	230.7	243.4	277.2	307.7	320.3
62.5°	207.1	224.0	260.3	292.4	305.1
65°	182.6	201.2	242.6	274.7	287.4
67.5°	160.6	180.9	224.8	256.9	269.6
70°	134.4	159.7	205.4	237.5	250.2
72.5°	109.9	137.8	185.1	216.4	228.2
75°	86.2	117.5	164.0	191.9	197.8
77.5°	64.2	97.2	142.0	153.8	149.6
80°	45.6	77.8	110.7	104.8	107.3
82.5°	29.6	59.2	68.5	77.8	80.3
85°	16.9	34.7	42.3	45.6	47.3
87.5°	7.6	12.7	16.9	16.9	16.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)