

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: P313508

Luminaire Tested: **24FCZ2-35-UNV-L83050-RDP-CP187-W2A-U-4500K**

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: P313508
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: 24FCZ2-35-UNV-L83050-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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: 2169.0 lumens
Efficiency: N/A
Efficacy: 73.8 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

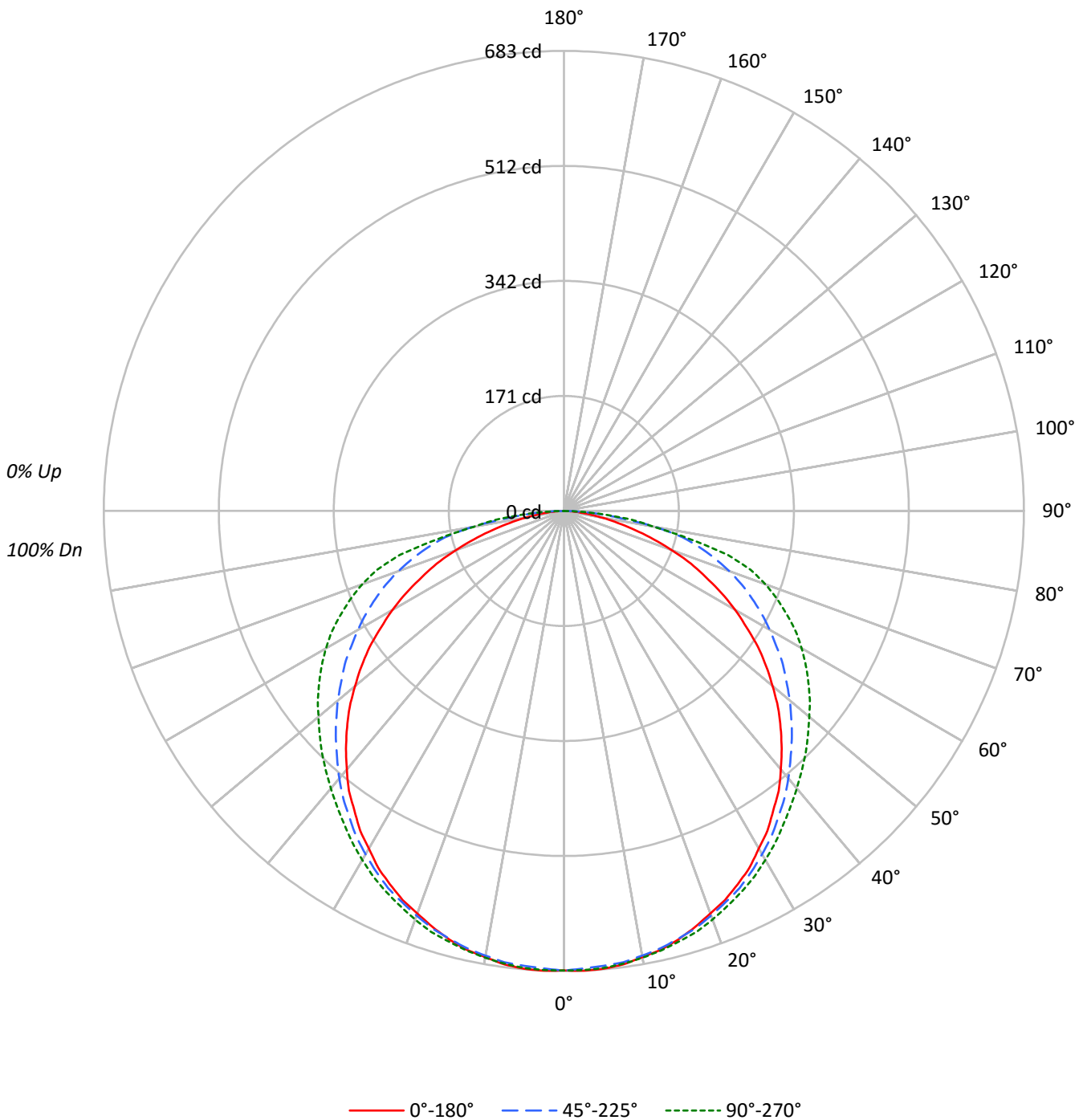
Input Watts (W): 29.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	68	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°	918	918	918
5°	921	915	920
10°	919	916	920
15°	917	916	922
20°	910	915	924
25°	907	917	926
30°	899	914	929
35°	891	912	933
40°	880	911	945
45°	866	911	966
50°	847	917	995
55°	825	931	1040
60°	790	950	1097
65°	740	983	1165
70°	673	1028	1253
75°	570	1085	1308
80°	450	1092	1058
85°	332	831	929



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.7	3.0
10°-20°	186.2	8.6
20°-30°	284.8	13.1
30°-40°	348.1	16.0
40°-50°	371.0	17.1
50°-60°	354.7	16.4
60°-70°	300.5	13.9
70°-80°	202.0	9.3
80°-90°	57.0	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°	535.7	24.7
0°-40°	883.8	40.7
0°-60°	1609.6	74.2
0°-90°	2169.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2169.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	682	682	682	682	682	
5°	682	681	678	681	681	65
15°	658	658	657	663	662	186
25°	611	613	618	623	624	282
35°	542	546	555	566	568	340
45°	455	463	479	499	508	351
55°	352	365	397	428	443	313
65°	232	256	309	350	366	231
75°	110	150	209	244	252	118
85°	22	44	54	58	60	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	682.1	682.1	682.1	682.1	682.1
2.5°	683.2	683.2	679.9	682.1	682.1
5°	682.1	681.0	677.8	681.0	681.0
7.5°	678.9	677.8	675.6	678.9	677.8
10°	672.4	672.4	670.3	673.5	673.5
12.5°	667.0	666.0	664.9	669.2	668.1
15°	658.4	658.4	657.3	662.7	661.6
17.5°	647.7	648.7	649.8	654.1	655.2
20°	635.8	638.0	639.1	645.5	645.5
22.5°	625.1	626.1	628.3	634.8	634.8
25°	611.1	613.2	617.5	622.9	624.0
27.5°	597.1	598.2	603.6	611.1	612.2
30°	578.8	582.0	588.5	597.1	598.2
32.5°	562.7	565.9	573.4	582.0	584.2
35°	542.2	546.5	555.1	565.9	568.0
37.5°	523.9	527.2	537.9	549.8	553.0
40°	501.3	507.8	518.6	532.5	537.9
42.5°	478.8	485.2	498.1	516.4	522.9
45°	455.1	462.6	478.8	499.2	507.8
47.5°	431.4	440.0	458.3	482.0	491.7
50°	404.5	415.3	437.9	464.8	475.5
52.5°	378.7	391.6	416.4	446.5	460.5
55°	351.8	364.7	397.0	428.2	443.2
57.5°	321.7	338.9	374.4	409.9	426.0
60°	293.7	309.8	352.9	391.6	407.7
62.5°	263.6	285.1	331.4	372.2	388.4
65°	232.4	256.1	308.8	349.7	365.8
67.5°	204.4	230.2	286.2	327.1	343.2
70°	171.1	203.3	261.4	302.3	318.5
72.5°	139.9	175.4	235.6	275.4	290.5
75°	109.7	149.5	208.7	244.2	251.7
77.5°	81.8	123.7	180.7	195.8	190.4
80°	58.1	99.0	140.9	133.4	136.6
82.5°	37.7	75.3	87.1	99.0	102.2
85°	21.5	44.1	53.8	58.1	60.2
87.5°	9.7	16.1	21.5	21.5	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)