

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: P313507

Luminaire Tested: **24FCZ2-35-UNV-L83050-RDP-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: P313507  
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-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 2149.0 lumens  
Efficiency: N/A  
Efficacy: 75.1 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

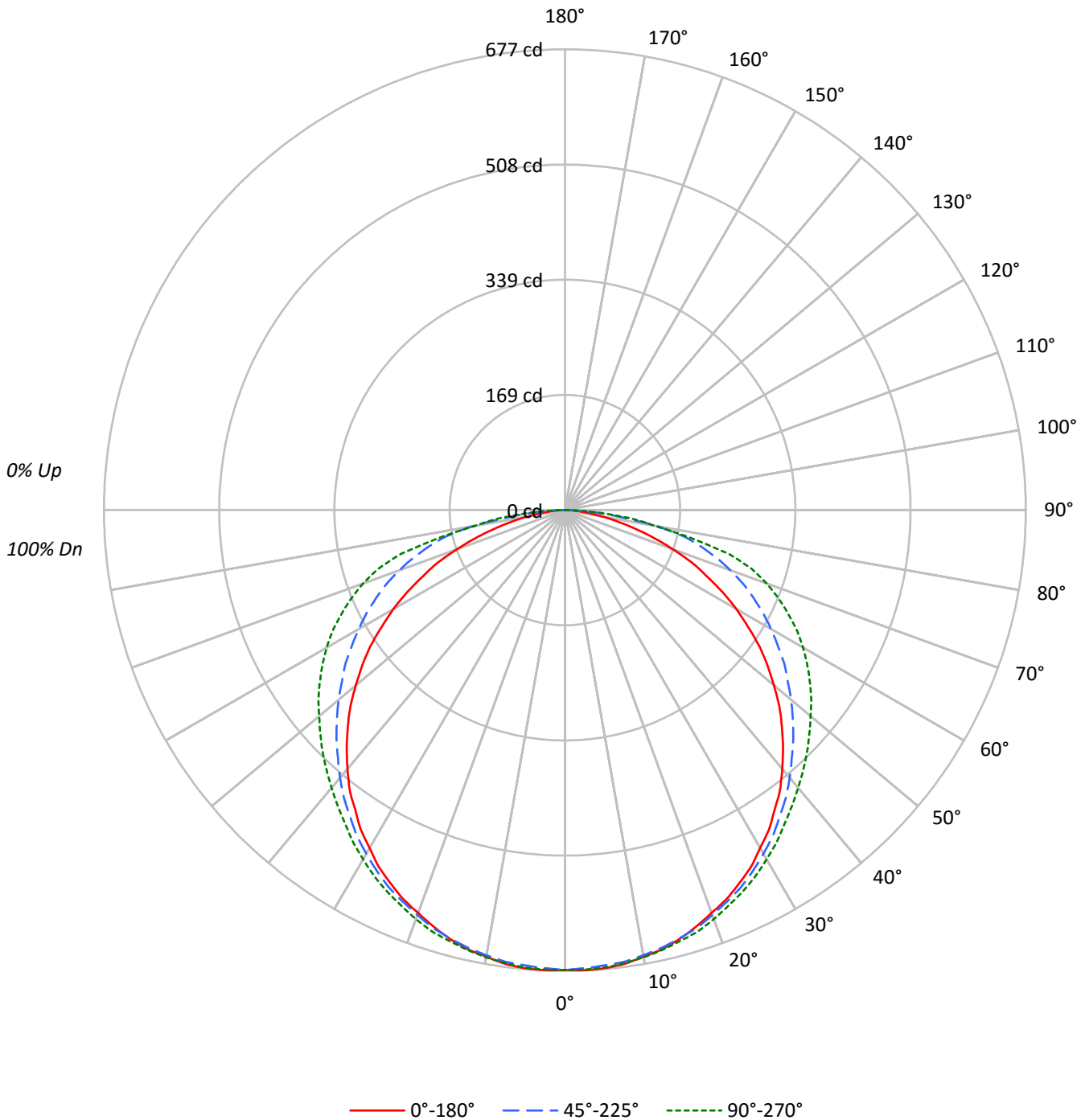
Input Watts (W): 28.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P313507

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-RDP-CP187-W2A-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P313507

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-RDP-CP187-W2A-U-4000K

**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°	909	909	909
5°	913	907	911
10°	910	907	912
15°	909	907	913
20°	902	907	916
25°	899	908	918
30°	891	906	921
35°	882	903	924
40°	872	902	936
45°	858	903	957
50°	839	908	986
55°	818	923	1030
60°	783	941	1087
65°	733	974	1154
70°	667	1019	1241
75°	565	1075	1297
80°	446	1082	1049
85°	329	823	922



TEST NUMBER: P313507

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-RDP-CP187-W2A-U-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.1	3.0
10°-20°	184.5	8.6
20°-30°	282.1	13.1
30°-40°	344.9	16.0
40°-50°	367.6	17.1
50°-60°	351.5	16.4
60°-70°	297.7	13.9
70°-80°	200.1	9.3
80°-90°	56.4	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°	530.7	24.7
0°-40°	875.6	40.7
0°-60°	1594.7	74.2
0°-90°	2149.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2149.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	676	676	676	676	676	
5°	676	675	672	675	675	64
15°	652	652	651	657	656	184
25°	605	608	612	617	618	279
35°	537	542	550	561	563	337
45°	451	458	474	495	503	348
55°	349	361	393	424	439	310
65°	230	254	306	346	362	229
75°	109	148	207	242	249	116
85°	21	44	53	58	60	26
90°	0	0	0	0	0	



TEST NUMBER: P313507

CATALOG NUMBER: 24FCZ2-35-UNV-L83050-RDP-CP187-W2A-U-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	675.8	675.8	675.8	675.8	675.8
2.5°	676.9	676.9	673.7	675.8	675.8
5°	675.8	674.7	671.5	674.7	674.7
7.5°	672.6	671.5	669.4	672.6	671.5
10°	666.2	666.2	664.1	667.3	667.3
12.5°	660.9	659.8	658.7	663.0	661.9
15°	652.3	652.3	651.3	656.6	655.5
17.5°	641.7	642.8	643.8	648.1	649.2
20°	630.0	632.1	633.2	639.6	639.6
22.5°	619.3	620.4	622.5	628.9	628.9
25°	605.4	607.6	611.8	617.2	618.2
27.5°	591.6	592.7	598.0	605.4	606.5
30°	573.5	576.7	583.1	591.6	592.7
32.5°	557.5	560.7	568.1	576.7	578.8
35°	537.2	541.5	550.0	560.7	562.8
37.5°	519.1	522.3	533.0	544.7	547.9
40°	496.7	503.1	513.8	527.6	533.0
42.5°	474.3	480.7	493.5	511.6	518.0
45°	450.9	458.3	474.3	494.6	503.1
47.5°	427.4	436.0	454.1	477.5	487.1
50°	400.8	411.4	433.8	460.5	471.1
52.5°	375.2	388.0	412.5	442.4	456.2
55°	348.6	361.4	393.3	424.2	439.2
57.5°	318.7	335.8	370.9	406.1	422.1
60°	291.0	307.0	349.6	388.0	404.0
62.5°	261.2	282.5	328.3	368.8	384.8
65°	230.2	253.7	305.9	346.4	362.4
67.5°	202.5	228.1	283.5	324.0	340.0
70°	169.5	201.5	259.0	299.5	315.5
72.5°	138.6	173.7	233.4	272.9	287.8
75°	108.7	148.2	206.8	242.0	249.4
77.5°	81.0	122.6	179.1	194.0	188.7
80°	57.6	98.1	139.6	132.2	135.4
82.5°	37.3	74.6	86.3	98.1	101.3
85°	21.3	43.7	53.3	57.6	59.7
87.5°	9.6	16.0	21.3	21.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)