

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: P310158

Luminaire Tested: **24FCZ2-45-UNV-L82765-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: P310158  
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: 24FCZ2-45-UNV-L82765-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**

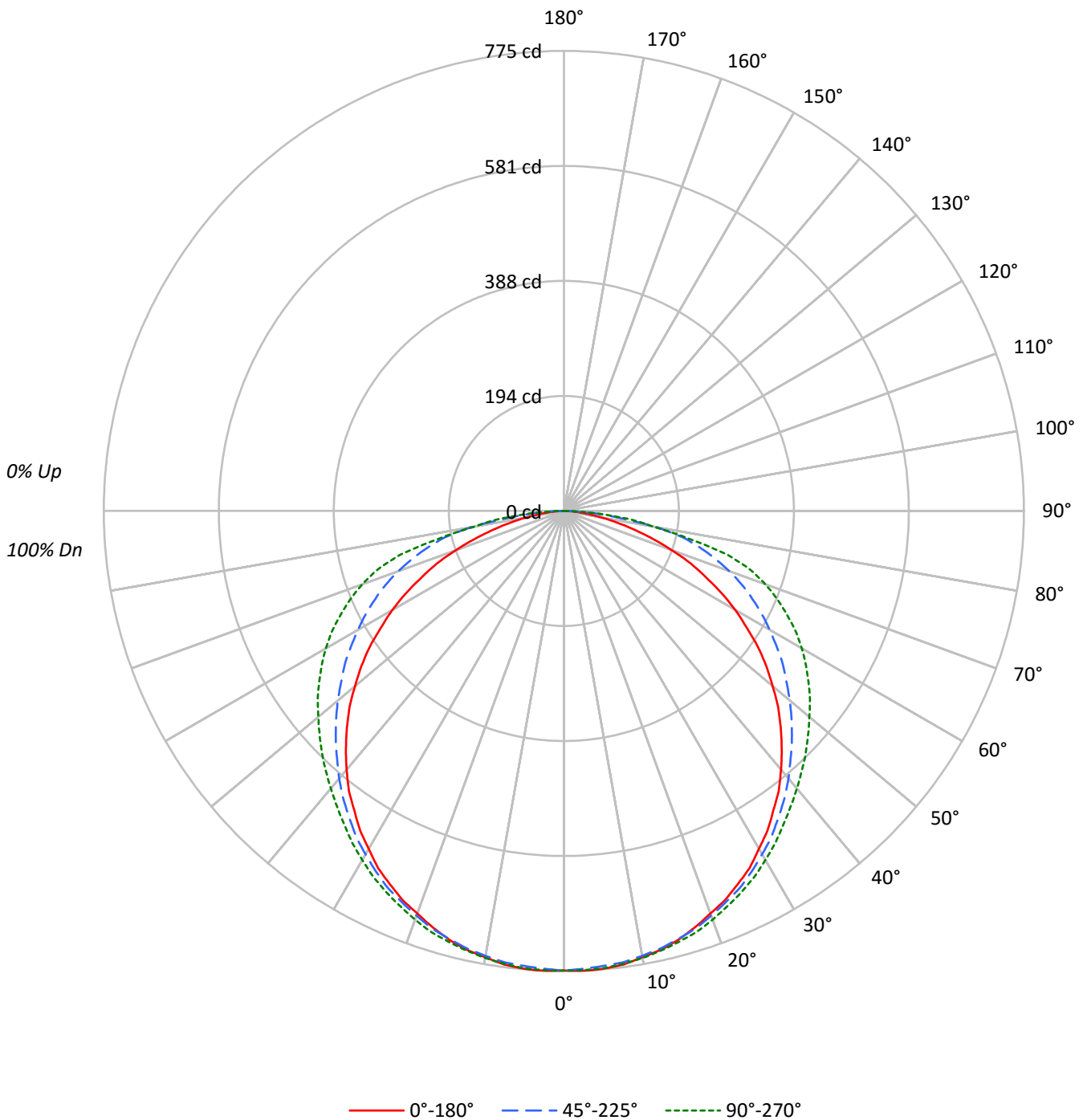
Lumens per Lamp: N/A  
Luminaire Lumens: 2462.0 lumens  
Efficiency: N/A  
Efficacy: 66.0 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 37.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1042	1042	1042
5°	1046	1039	1044
10°	1043	1039	1044
15°	1041	1039	1046
20°	1033	1039	1049
25°	1030	1041	1052
30°	1021	1038	1055
35°	1011	1035	1059
40°	1000	1034	1072
45°	983	1034	1097
50°	961	1040	1130
55°	937	1057	1180
60°	897	1078	1245
65°	840	1116	1322
70°	764	1167	1422
75°	648	1232	1486
80°	511	1240	1202
85°	377	943	1056



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.4	3.0
10°-20°	211.4	8.6
20°-30°	323.2	13.1
30°-40°	395.1	16.0
40°-50°	421.1	17.1
50°-60°	402.7	16.4
60°-70°	341.1	13.9
70°-80°	229.3	9.3
80°-90°	64.7	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°	608.0	24.7
0°-40°	1003.2	40.7
0°-60°	1827.0	74.2
0°-90°	2462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2462.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	774	774	774	774	774	
5°	774	773	769	773	773	74
15°	747	747	746	752	751	211
25°	694	696	701	707	708	320
35°	616	620	630	642	645	386
45°	517	525	543	567	576	398
55°	399	414	451	486	503	356
65°	264	291	350	397	415	262
75°	125	170	237	277	286	133
85°	24	50	61	66	68	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	774.2	774.2	774.2	774.2	774.2
2.5°	775.4	775.4	771.8	774.2	774.2
5°	774.2	773.0	769.3	773.0	773.0
7.5°	770.6	769.3	766.9	770.6	769.3
10°	763.2	763.2	760.8	764.5	764.5
12.5°	757.1	755.9	754.7	759.6	758.4
15°	747.4	747.4	746.1	752.2	751.0
17.5°	735.2	736.4	737.6	742.5	743.7
20°	721.7	724.2	725.4	732.7	732.7
22.5°	709.5	710.7	713.2	720.5	720.5
25°	693.6	696.1	701.0	707.1	708.3
27.5°	677.8	679.0	685.1	693.6	694.9
30°	657.0	660.7	668.0	677.8	679.0
32.5°	638.7	642.3	650.9	660.7	663.1
35°	615.5	620.4	630.1	642.3	644.8
37.5°	594.7	598.4	610.6	624.0	627.7
40°	569.1	576.4	588.6	604.5	610.6
42.5°	543.4	550.8	565.4	586.2	593.5
45°	516.6	525.1	543.4	566.6	576.4
47.5°	489.7	499.5	520.2	547.1	558.1
50°	459.2	471.4	497.0	527.6	539.8
52.5°	429.9	444.5	472.6	506.8	522.7
55°	399.3	414.0	450.6	486.0	503.1
57.5°	365.1	384.7	425.0	465.3	483.6
60°	333.4	351.7	400.5	444.5	462.8
62.5°	299.2	323.6	376.1	422.5	440.8
65°	263.8	290.6	350.5	396.9	415.2
67.5°	232.0	261.3	324.8	371.2	389.6
70°	194.2	230.8	296.7	343.2	361.5
72.5°	158.8	199.1	267.4	312.6	329.7
75°	124.6	169.7	236.9	277.2	285.8
77.5°	92.8	140.4	205.2	222.3	216.1
80°	65.9	112.3	160.0	151.4	155.1
82.5°	42.7	85.5	98.9	112.3	116.0
85°	24.4	50.1	61.1	65.9	68.4
87.5°	11.0	18.3	24.4	24.4	23.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)