

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: P313607

Luminaire Tested: **24FCZ2-45-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: P313607  
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-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: 2738.0 lumens  
Efficiency: N/A  
Efficacy: 71.1 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

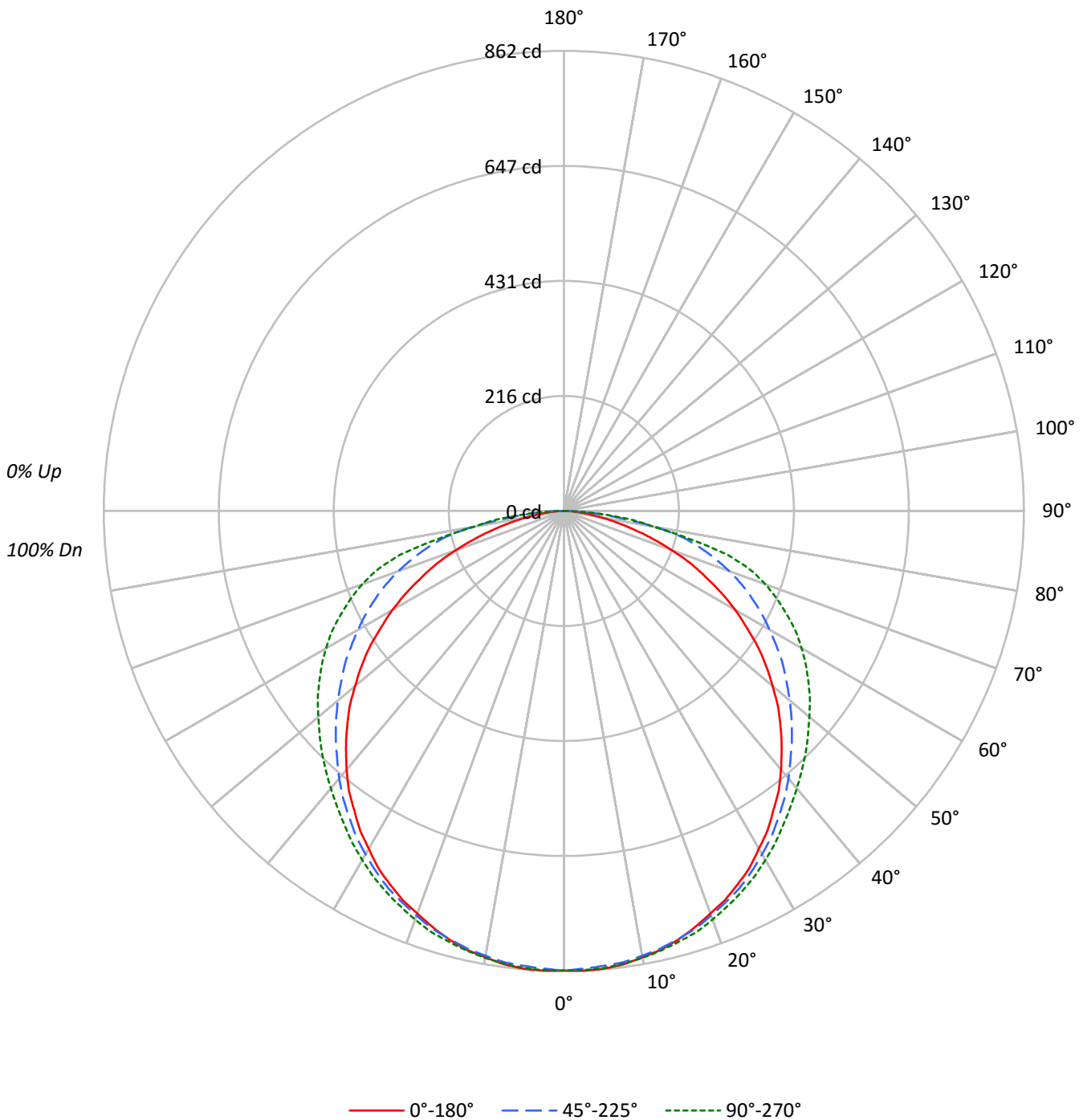
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1158	1158	1158
5°	1163	1156	1161
10°	1160	1156	1162
15°	1158	1156	1163
20°	1149	1155	1167
25°	1145	1157	1169
30°	1135	1154	1173
35°	1124	1151	1178
40°	1112	1150	1193
45°	1093	1150	1220
50°	1069	1157	1257
55°	1042	1175	1312
60°	998	1199	1385
65°	934	1241	1470
70°	849	1298	1581
75°	720	1370	1652
80°	568	1378	1337
85°	420	1048	1175



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.7	3.0
10°-20°	235.1	8.6
20°-30°	359.5	13.1
30°-40°	439.4	16.0
40°-50°	468.3	17.1
50°-60°	447.8	16.4
60°-70°	379.3	13.9
70°-80°	255.0	9.3
80°-90°	71.9	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°	676.2	24.7
0°-40°	1115.6	40.7
0°-60°	2031.8	74.2
0°-90°	2738.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2738.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	861	861	861	861	861	
5°	861	860	856	860	860	82
15°	831	831	830	837	835	234
25°	771	774	780	786	788	356
35°	684	690	701	714	717	429
45°	574	584	604	630	641	443
55°	444	460	501	540	560	396
65°	293	323	390	441	462	291
75°	138	189	264	308	318	148
85°	27	56	68	73	76	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	861.0	861.0	861.0	861.0	861.0
2.5°	862.4	862.4	858.3	861.0	861.0
5°	861.0	859.7	855.6	859.7	859.7
7.5°	856.9	855.6	852.9	856.9	855.6
10°	848.8	848.8	846.1	850.2	850.2
12.5°	842.0	840.7	839.3	844.7	843.4
15°	831.1	831.1	829.8	836.6	835.2
17.5°	817.6	818.9	820.3	825.7	827.1
20°	802.6	805.3	806.7	814.8	814.8
22.5°	789.0	790.4	793.1	801.3	801.3
25°	771.4	774.1	779.5	786.3	787.7
27.5°	753.7	755.1	761.9	771.4	772.7
30°	730.6	734.7	742.9	753.7	755.1
32.5°	710.3	714.4	723.9	734.7	737.4
35°	684.5	689.9	700.8	714.4	717.1
37.5°	661.4	665.5	679.0	694.0	698.1
40°	632.9	641.0	654.6	672.2	679.0
42.5°	604.3	612.5	628.8	651.9	660.0
45°	574.5	584.0	604.3	630.1	641.0
47.5°	544.6	555.5	578.5	608.4	620.6
50°	510.6	524.2	552.7	586.7	600.3
52.5°	478.0	494.3	525.6	563.6	581.3
55°	444.1	460.4	501.1	540.5	559.5
57.5°	406.1	427.8	472.6	517.4	537.8
60°	370.8	391.1	445.5	494.3	514.7
62.5°	332.7	359.9	418.3	469.9	490.3
65°	293.3	323.2	389.8	441.4	461.7
67.5°	258.0	290.6	361.2	412.9	433.2
70°	215.9	256.7	330.0	381.6	402.0
72.5°	176.6	221.4	297.4	347.7	366.7
75°	138.5	188.8	263.5	308.3	317.8
77.5°	103.2	156.2	228.2	247.2	240.4
80°	73.3	124.9	177.9	168.4	172.5
82.5°	47.5	95.1	110.0	124.9	129.0
85°	27.2	55.7	67.9	73.3	76.1
87.5°	12.2	20.4	27.2	27.2	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)