

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: P313230

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-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: P313230  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 2846.0 lumens  
Efficiency: N/A  
Efficacy: 75.9 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

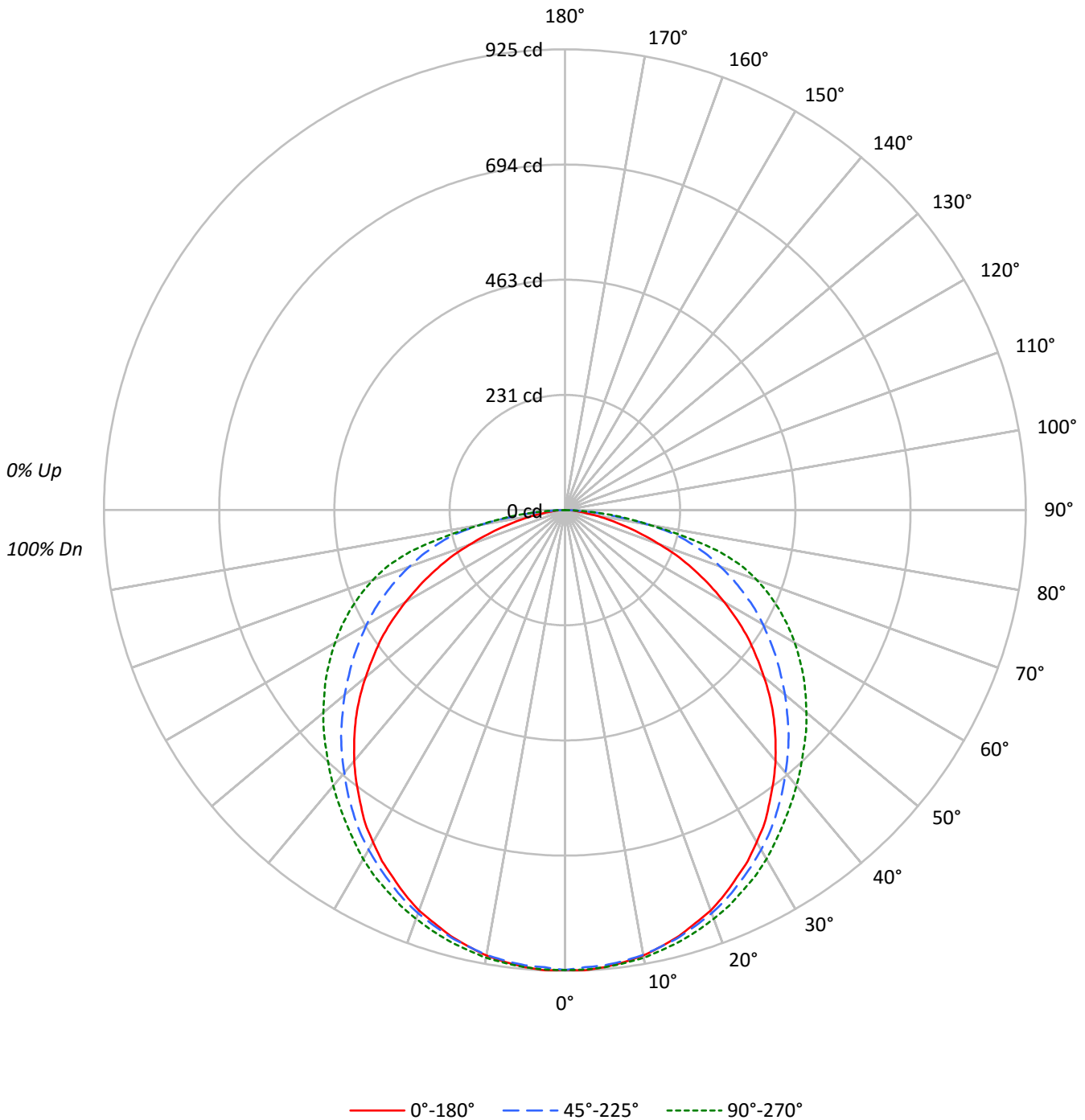
Input Watts (W): 37.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1242	1242	1242
5°	1244	1239	1244
10°	1240	1239	1247
15°	1233	1236	1248
20°	1225	1233	1250
25°	1210	1228	1252
30°	1196	1224	1257
35°	1176	1217	1258
40°	1155	1210	1270
45°	1129	1208	1290
50°	1092	1207	1324
55°	1054	1216	1372
60°	994	1234	1433
65°	918	1263	1514
70°	801	1308	1613
75°	650	1375	1666
80°	480	1348	1348
85°	367	993	1122



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.5	3.1
10°-20°	251.2	8.8
20°-30°	382.4	13.4
30°-40°	464.3	16.3
40°-50°	490.6	17.2
50°-60°	462.9	16.3
60°-70°	384.9	13.5
70°-80°	253.2	8.9
80°-90°	69.0	2.4
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°	721.1	25.3
0°-40°	1185.4	41.7
0°-60°	2138.9	75.2
0°-90°	2846.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2846.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	923	923	923	923	923	
5°	921	921	917	921	921	87
15°	885	886	888	896	896	250
25°	815	820	827	841	844	376
35°	716	724	741	760	766	448
45°	593	605	635	666	678	457
55°	449	468	518	567	585	400
65°	288	322	397	455	475	285
75°	125	182	264	313	320	135
85°	24	52	64	72	73	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	923.4	923.4	923.4	923.4	923.4
2.5°	924.6	923.4	918.6	923.4	923.4
5°	921.0	921.0	917.4	921.0	921.0
7.5°	915.0	915.0	912.7	917.4	917.4
10°	907.9	907.9	906.7	912.7	912.7
12.5°	897.2	898.4	897.2	904.3	904.3
15°	885.3	886.5	887.6	896.0	896.0
17.5°	869.8	872.2	874.5	884.1	885.3
20°	855.5	856.7	861.4	872.2	873.3
22.5°	836.4	840.0	845.9	856.7	860.2
25°	815.0	819.7	826.9	841.2	843.6
27.5°	794.7	798.3	807.8	823.3	828.1
30°	769.7	775.6	787.6	803.0	809.0
32.5°	745.9	751.8	766.1	782.8	787.6
35°	716.1	724.4	741.1	760.2	766.1
37.5°	687.5	695.8	716.1	737.5	744.7
40°	657.7	667.2	688.7	713.7	723.2
42.5°	625.5	638.6	662.5	689.9	700.6
45°	593.4	605.3	635.1	666.0	677.9
47.5°	558.8	573.1	605.3	642.2	656.5
50°	521.9	539.7	576.7	617.2	632.7
52.5°	484.9	505.2	546.9	592.2	608.8
55°	449.2	468.2	518.3	567.1	585.0
57.5°	409.9	433.7	488.5	540.9	558.8
60°	369.4	395.6	458.7	513.5	532.6
62.5°	328.8	358.6	430.1	484.9	505.2
65°	288.3	321.7	396.8	455.1	475.4
67.5°	249.0	286.0	365.8	424.2	444.4
70°	203.7	250.2	332.4	389.6	409.9
72.5°	162.0	215.7	300.2	353.9	371.7
75°	125.1	182.3	264.5	313.4	320.5
77.5°	91.7	148.9	227.6	244.3	245.4
80°	62.0	119.1	174.0	171.6	174.0
82.5°	40.5	89.4	109.6	122.7	123.9
85°	23.8	52.4	64.3	71.5	72.7
87.5°	11.9	17.9	22.6	23.8	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)