

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: P313235

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CP250-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: P313235  
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-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
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: 2823.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 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

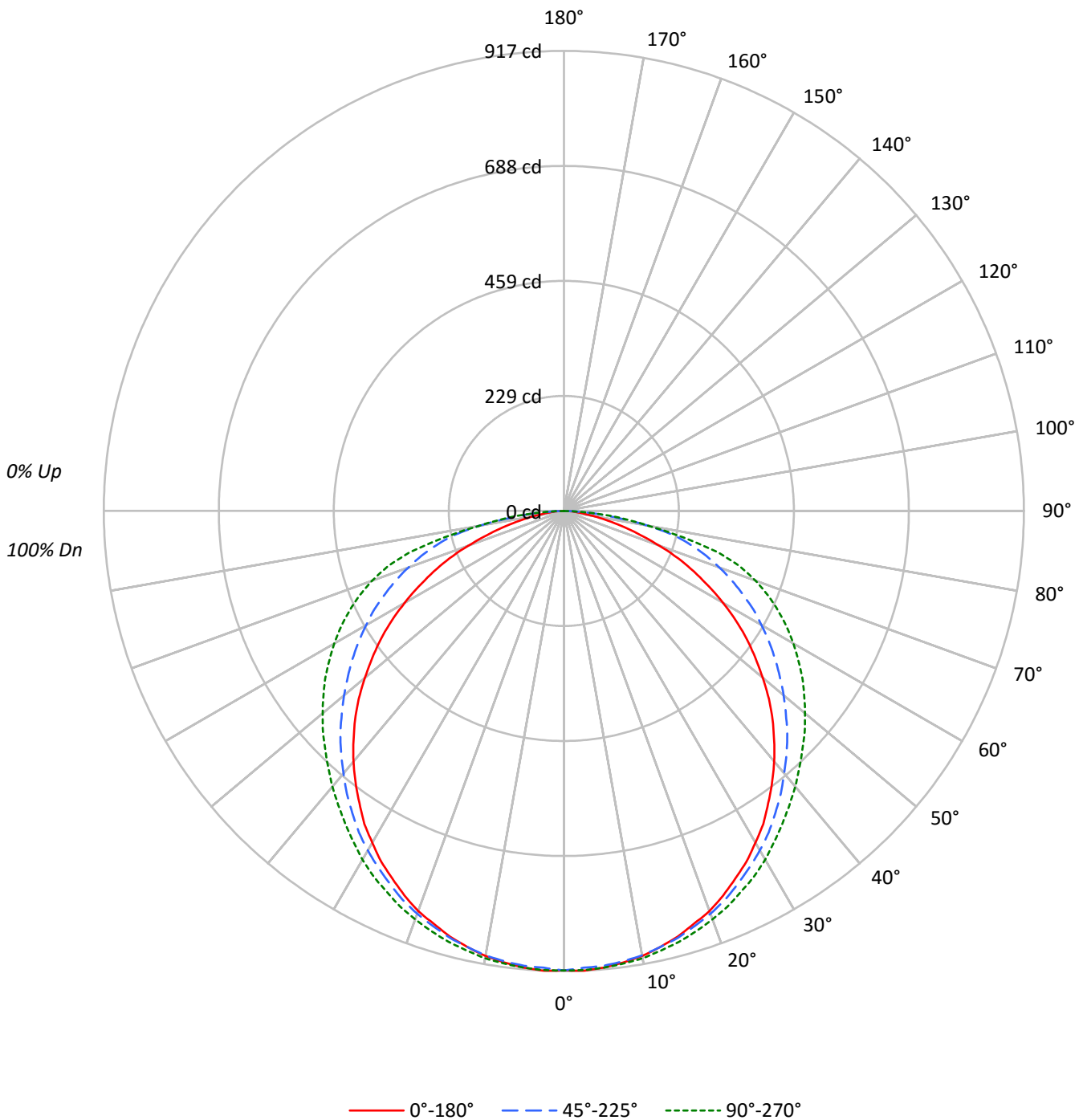
Input Watts (W): 37.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1232	1232	1232
5°	1234	1229	1234
10°	1230	1229	1237
15°	1223	1226	1238
20°	1215	1224	1240
25°	1200	1218	1242
30°	1186	1214	1247
35°	1167	1207	1248
40°	1146	1200	1260
45°	1120	1199	1280
50°	1083	1197	1314
55°	1045	1206	1361
60°	986	1224	1422
65°	911	1253	1501
70°	795	1297	1600
75°	645	1364	1653
80°	477	1337	1337
85°	364	985	1113



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.8	3.1
10°-20°	249.2	8.8
20°-30°	379.3	13.4
30°-40°	460.6	16.3
40°-50°	486.6	17.2
50°-60°	459.2	16.3
60°-70°	381.8	13.5
70°-80°	251.2	8.9
80°-90°	68.5	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°	715.2	25.3
0°-40°	1175.8	41.7
0°-60°	2121.6	75.2
0°-90°	2823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	914	914	910	914	914	87
15°	878	879	880	889	889	248
25°	808	813	820	834	837	373
35°	710	719	735	754	760	445
45°	589	600	630	661	672	453
55°	446	464	514	563	580	397
65°	286	319	394	452	472	283
75°	124	181	262	311	318	134
85°	24	52	64	71	72	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	915.9	915.9	915.9	915.9	915.9
2.5°	917.1	915.9	911.2	915.9	915.9
5°	913.6	913.6	910.0	913.6	913.6
7.5°	907.7	907.7	905.3	910.0	910.0
10°	900.6	900.6	899.4	905.3	905.3
12.5°	889.9	891.1	889.9	897.0	897.0
15°	878.1	879.3	880.5	888.7	888.7
17.5°	862.7	865.1	867.5	876.9	878.1
20°	848.6	849.7	854.5	865.1	866.3
22.5°	829.7	833.2	839.1	849.7	853.3
25°	808.4	813.1	820.2	834.4	836.7
27.5°	788.3	791.8	801.3	816.7	821.4
30°	763.5	769.4	781.2	796.6	802.5
32.5°	739.8	745.7	759.9	776.5	781.2
35°	710.3	718.6	735.1	754.0	759.9
37.5°	681.9	690.2	710.3	731.6	738.6
40°	652.4	661.8	683.1	707.9	717.4
42.5°	620.5	633.5	657.1	684.3	694.9
45°	588.6	600.4	629.9	660.6	672.5
47.5°	554.3	568.5	600.4	637.0	651.2
50°	517.6	535.4	572.0	612.2	627.6
52.5°	481.0	501.1	542.5	587.4	603.9
55°	445.6	464.5	514.1	562.6	580.3
57.5°	406.6	430.2	484.6	536.6	554.3
60°	366.4	392.4	455.0	509.4	528.3
62.5°	326.2	355.7	426.6	481.0	501.1
65°	286.0	319.1	393.6	451.5	471.6
67.5°	247.0	283.6	362.8	420.7	440.8
70°	202.1	248.2	329.7	386.5	406.6
72.5°	160.7	213.9	297.8	351.0	368.7
75°	124.1	180.8	262.4	310.8	317.9
77.5°	91.0	147.7	225.7	242.3	243.5
80°	61.5	118.2	172.5	170.2	172.5
82.5°	40.2	88.6	108.7	121.7	122.9
85°	23.6	52.0	63.8	70.9	72.1
87.5°	11.8	17.7	22.5	23.6	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)