

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: P311248

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CP250-W2A-U-3500K**

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: P311248  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-30-UNV-L82765-S-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 3500K 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: 2641.0 lumens  
Efficiency: N/A  
Efficacy: 112.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

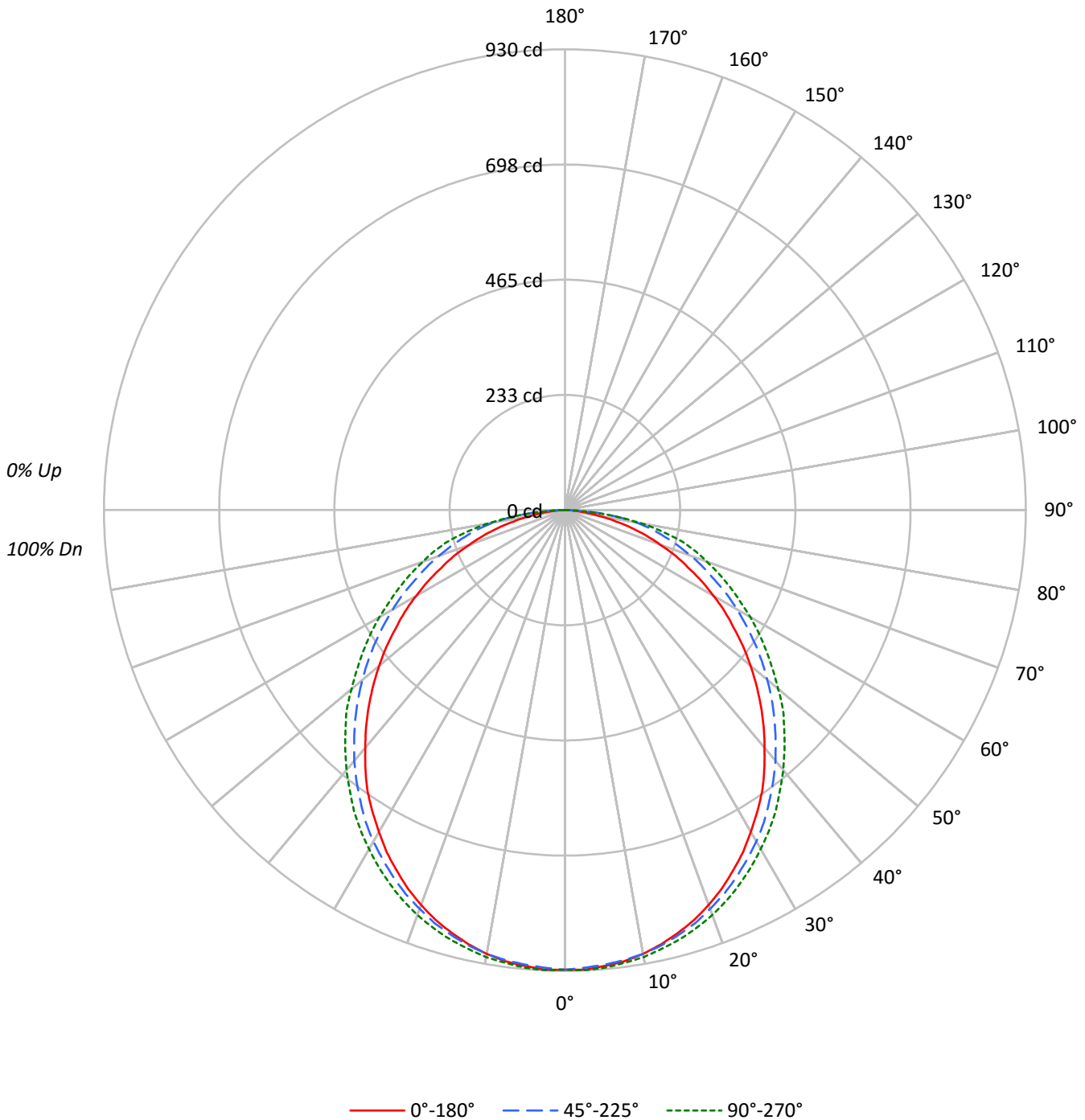
Input Watts (W): 23.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1248	1248	1248
5°	1247	1244	1252
10°	1242	1242	1252
15°	1230	1236	1249
20°	1214	1226	1246
25°	1192	1214	1238
30°	1165	1200	1228
35°	1140	1181	1218
40°	1101	1161	1204
45°	1065	1138	1191
50°	1024	1117	1176
55°	978	1096	1165
60°	932	1079	1163
65°	873	1060	1170
70°	808	1066	1201
75°	724	1086	1269
80°	585	1151	1241
85°	440	1010	985



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.8	3.3
10°-20°	251.0	9.5
20°-30°	377.3	14.3
30°-40°	449.4	17.0
40°-50°	459.9	17.4
50°-60°	414.1	15.7
60°-70°	325.2	12.3
70°-80°	211.1	8.0
80°-90°	65.3	2.5
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°	716.1	27.1
0°-40°	1165.5	44.1
0°-60°	2039.5	77.2
0°-90°	2641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2641.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	928	928	928	928	928	
5°	924	925	921	926	927	88
15°	883	886	888	895	897	249
25°	803	810	818	831	834	370
35°	694	702	719	736	742	433
45°	560	573	598	621	626	431
55°	417	435	467	492	497	374
65°	274	295	333	361	367	273
75°	139	166	209	237	244	147
85°	28	53	65	64	64	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	927.8	927.8	927.8	927.8	927.8
2.5°	928.6	928.6	924.4	928.6	929.5
5°	923.6	925.3	921.1	926.1	927.0
7.5°	918.6	918.6	916.1	921.1	921.9
10°	909.3	910.2	909.3	915.2	916.1
12.5°	897.6	899.3	900.1	906.0	906.8
15°	883.3	885.9	887.5	895.1	896.8
17.5°	867.4	869.9	874.1	882.5	884.2
20°	848.1	851.5	856.5	867.4	869.9
22.5°	827.1	830.5	838.9	848.9	853.1
25°	802.8	809.5	817.9	831.3	833.8
27.5°	778.5	784.4	795.3	809.5	812.9
30°	750.0	759.2	772.6	786.9	790.2
32.5°	722.3	731.5	747.4	762.5	766.7
35°	693.8	702.1	718.9	736.5	741.6
37.5°	661.0	671.9	690.4	708.0	713.0
40°	626.6	640.1	661.0	679.5	685.4
42.5°	593.9	608.2	629.2	649.3	656.0
45°	559.5	573.0	598.1	620.8	625.8
47.5°	524.3	539.4	566.2	588.9	597.3
50°	489.1	505.0	533.5	557.0	562.0
52.5°	453.8	470.6	500.8	526.0	528.5
55°	416.9	435.4	467.3	491.6	496.6
57.5°	383.4	399.3	433.7	458.9	464.7
60°	346.5	364.1	401.0	424.5	432.0
62.5°	311.2	329.7	368.3	391.8	398.5
65°	274.3	295.3	333.0	360.7	367.4
67.5°	242.4	262.6	302.8	329.7	336.4
70°	205.5	228.2	271.0	298.6	305.4
72.5°	173.6	197.1	239.9	266.8	276.8
75°	139.3	166.1	208.9	237.4	244.1
77.5°	105.7	136.7	180.4	202.2	202.2
80°	75.5	108.2	148.5	158.5	160.2
82.5°	49.5	81.4	109.9	109.1	109.1
85°	28.5	52.8	65.4	63.8	63.8
87.5°	10.9	21.8	23.5	23.5	22.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)