

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: P311426

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP250-W2A-U-2700K**

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: P311426  
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: 24FCZ2-40-UNV-L82765-S-CP250-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 2700K 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: 3311.0 lumens  
Efficiency: N/A  
Efficacy: 101.3 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

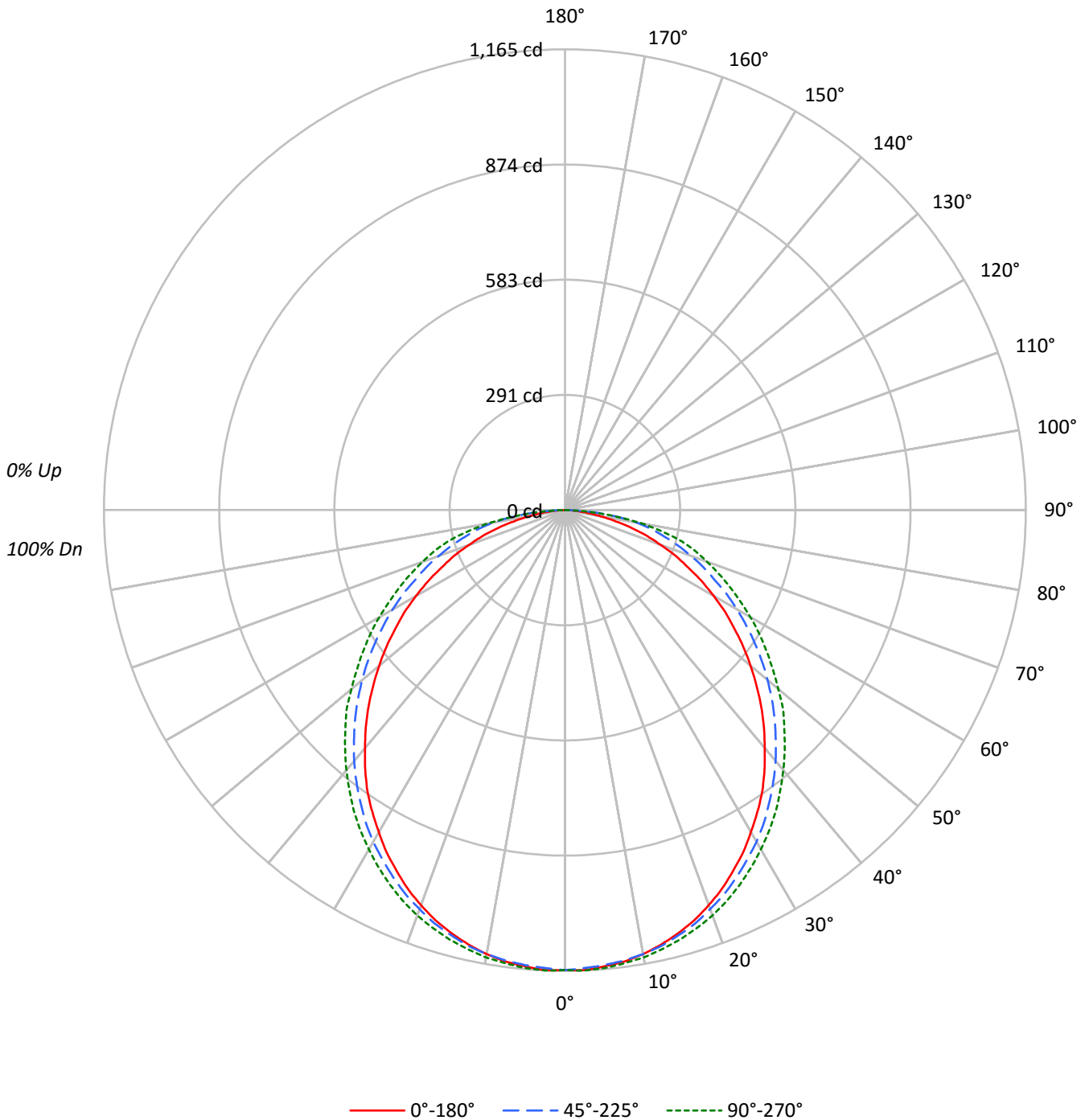
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1565	1565	1565
5°	1564	1560	1570
10°	1558	1558	1569
15°	1543	1550	1566
20°	1522	1538	1562
25°	1494	1522	1552
30°	1461	1505	1539
35°	1429	1480	1527
40°	1380	1456	1509
45°	1335	1427	1493
50°	1283	1400	1475
55°	1226	1374	1460
60°	1169	1353	1457
65°	1095	1329	1466
70°	1014	1336	1506
75°	908	1362	1591
80°	734	1443	1557
85°	553	1266	1233



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	3.3
10°-20°	314.7	9.5
20°-30°	473.0	14.3
30°-40°	563.4	17.0
40°-50°	576.6	17.4
50°-60°	519.1	15.7
60°-70°	407.7	12.3
70°-80°	264.6	8.0
80°-90°	81.8	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°	897.8	27.1
0°-40°	1461.2	44.1
0°-60°	2556.9	77.2
0°-90°	3311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3311.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1158	1160	1155	1161	1162	110
15°	1107	1111	1113	1122	1124	312
25°	1006	1015	1025	1042	1045	464
35°	870	880	901	923	930	543
45°	702	718	750	778	785	541
55°	523	546	586	616	623	469
65°	344	370	418	452	461	342
75°	175	208	262	298	306	185
85°	36	66	82	80	80	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1163.2	1163.2	1163.2	1163.2	1163.2
2.5°	1164.2	1164.2	1159.0	1164.2	1165.3
5°	1157.9	1160.0	1154.8	1161.1	1162.1
7.5°	1151.6	1151.6	1148.5	1154.8	1155.8
10°	1140.0	1141.1	1140.0	1147.4	1148.5
12.5°	1125.3	1127.4	1128.5	1135.8	1136.9
15°	1107.4	1110.6	1112.7	1122.2	1124.3
17.5°	1087.5	1090.6	1095.9	1106.4	1108.5
20°	1063.3	1067.5	1073.8	1087.5	1090.6
22.5°	1037.0	1041.2	1051.7	1064.3	1069.6
25°	1006.5	1014.9	1025.4	1042.2	1045.4
27.5°	976.0	983.3	997.0	1014.9	1019.1
30°	940.2	951.8	968.6	986.5	990.7
32.5°	905.5	917.1	937.1	956.0	961.3
35°	869.8	880.3	901.3	923.4	929.7
37.5°	828.7	842.4	865.5	887.6	893.9
40°	785.6	802.4	828.7	851.9	859.2
42.5°	744.6	762.5	788.8	814.0	822.4
45°	701.5	718.3	749.9	778.3	784.6
47.5°	657.3	676.2	709.9	738.3	748.8
50°	613.1	633.1	668.9	698.3	704.6
52.5°	569.0	590.0	627.9	659.4	662.6
55°	522.7	545.8	585.8	616.3	622.6
57.5°	480.6	500.6	543.7	575.3	582.6
60°	434.4	456.4	502.7	532.2	541.6
62.5°	390.2	413.3	461.7	491.1	499.6
65°	343.9	370.2	417.5	452.2	460.6
67.5°	303.9	329.2	379.7	413.3	421.7
70°	257.7	286.1	339.7	374.4	382.8
72.5°	217.7	247.1	300.8	334.4	347.1
75°	174.6	208.2	261.9	297.6	306.0
77.5°	132.5	171.4	226.1	253.5	253.5
80°	94.7	135.7	186.2	198.8	200.9
82.5°	62.1	102.0	137.8	136.7	136.7
85°	35.8	66.3	82.0	79.9	79.9
87.5°	13.7	27.3	29.4	29.4	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)