

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: P311340

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP250-W2A-U-4500K**

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: P311340  
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: 24FCZ2-35-UNV-L82765-S-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 4500K 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**

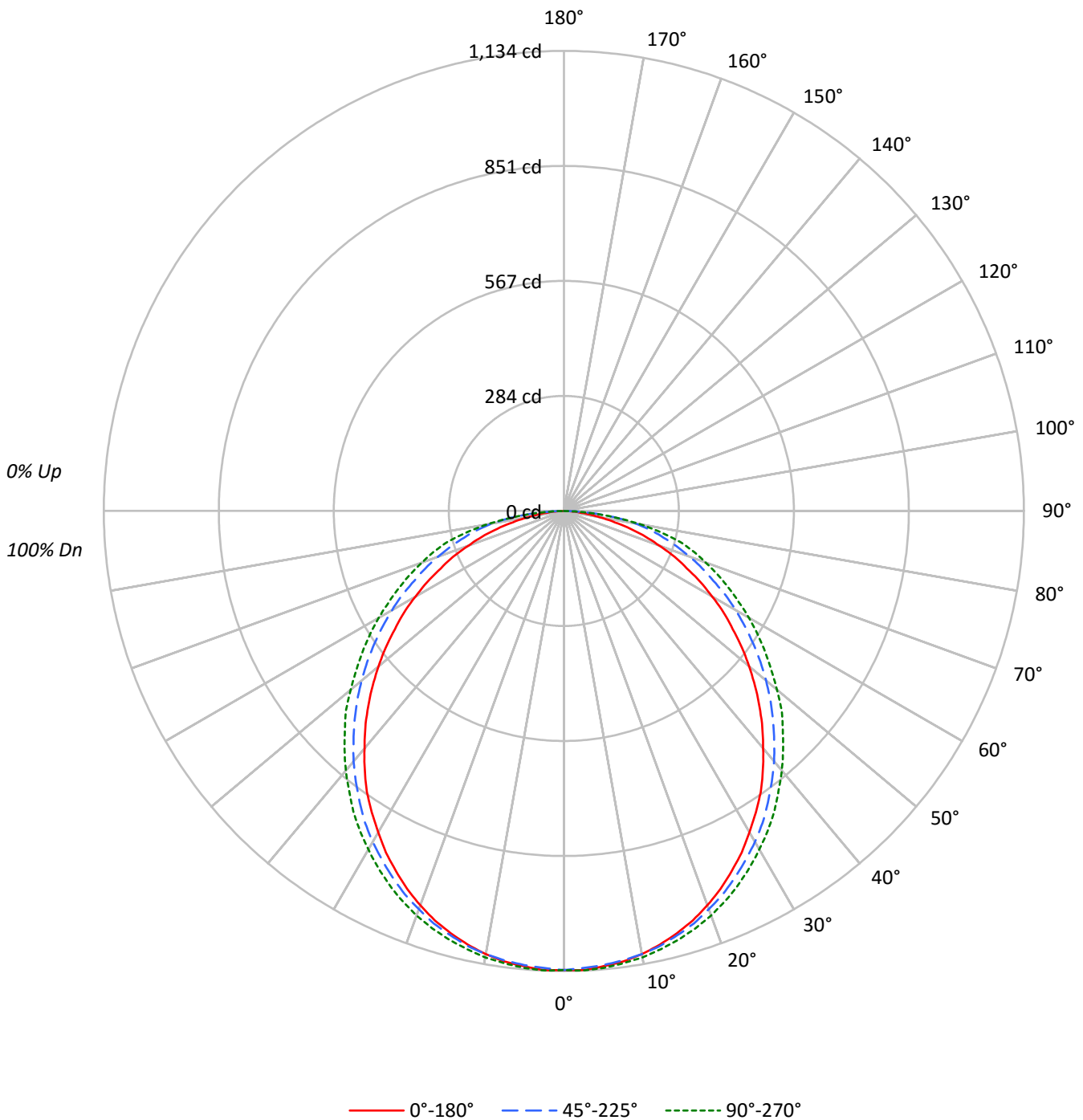
Lumens per Lamp: N/A  
Luminaire Lumens: 3221.0 lumens  
Efficiency: N/A  
Efficacy: 113.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1523	1523	1523
5°	1521	1517	1527
10°	1515	1515	1526
15°	1501	1508	1523
20°	1481	1496	1519
25°	1454	1481	1510
30°	1421	1464	1497
35°	1390	1440	1486
40°	1342	1416	1468
45°	1298	1388	1452
50°	1249	1362	1435
55°	1193	1337	1421
60°	1137	1316	1418
65°	1065	1293	1427
70°	986	1300	1465
75°	883	1325	1548
80°	714	1403	1514
85°	537	1232	1201



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.1	3.3
10°-20°	306.1	9.5
20°-30°	460.1	14.3
30°-40°	548.1	17.0
40°-50°	560.9	17.4
50°-60°	505.0	15.7
60°-70°	396.6	12.3
70°-80°	257.4	8.0
80°-90°	79.6	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°	873.4	27.1
0°-40°	1421.4	44.1
0°-60°	2487.4	77.2
0°-90°	3221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3221.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1132	1132	1132	1132	1132	
5°	1126	1128	1123	1130	1130	107
15°	1077	1080	1082	1092	1094	304
25°	979	987	998	1014	1017	451
35°	846	856	877	898	904	528
45°	682	699	730	757	763	526
55°	508	531	570	600	606	456
65°	335	360	406	440	448	333
75°	170	203	255	290	298	180
85°	35	64	80	78	78	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1131.6	1131.6	1131.6	1131.6	1131.6
2.5°	1132.6	1132.6	1127.5	1132.6	1133.6
5°	1126.4	1128.5	1123.4	1129.5	1130.5
7.5°	1120.3	1120.3	1117.2	1123.4	1124.4
10°	1109.0	1110.1	1109.0	1116.2	1117.2
12.5°	1094.7	1096.8	1097.8	1105.0	1106.0
15°	1077.3	1080.4	1082.4	1091.7	1093.7
17.5°	1057.9	1061.0	1066.1	1076.3	1078.4
20°	1034.4	1038.5	1044.6	1057.9	1061.0
22.5°	1008.8	1012.9	1023.1	1035.4	1040.5
25°	979.1	987.3	997.5	1013.9	1017.0
27.5°	949.4	956.6	969.9	987.3	991.4
30°	914.7	925.9	942.3	959.7	963.8
32.5°	880.9	892.2	911.6	930.0	935.1
35°	846.1	856.3	876.8	898.3	904.4
37.5°	806.2	819.5	842.0	863.5	869.6
40°	764.3	780.6	806.2	828.7	835.9
42.5°	724.4	741.8	767.3	791.9	800.1
45°	682.4	698.8	729.5	757.1	763.2
47.5°	639.4	657.9	690.6	718.2	728.5
50°	596.5	615.9	650.7	679.3	685.5
52.5°	553.5	574.0	610.8	641.5	644.6
55°	508.5	531.0	569.9	599.5	605.7
57.5°	467.6	487.0	528.9	559.6	566.8
60°	422.5	444.0	489.0	517.7	526.9
62.5°	379.6	402.1	449.1	477.8	486.0
65°	334.6	360.1	406.2	439.9	448.1
67.5°	295.7	320.2	369.3	402.1	410.3
70°	250.7	278.3	330.5	364.2	372.4
72.5°	211.8	240.4	292.6	325.3	337.6
75°	169.8	202.6	254.8	289.5	297.7
77.5°	128.9	166.8	220.0	246.6	246.6
80°	92.1	132.0	181.1	193.4	195.4
82.5°	60.4	99.2	134.0	133.0	133.0
85°	34.8	64.5	79.8	77.8	77.8
87.5°	13.3	26.6	28.6	28.6	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)