

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: P311428

Luminaire Tested: **24FCZ2-40-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: P311428  
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-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**

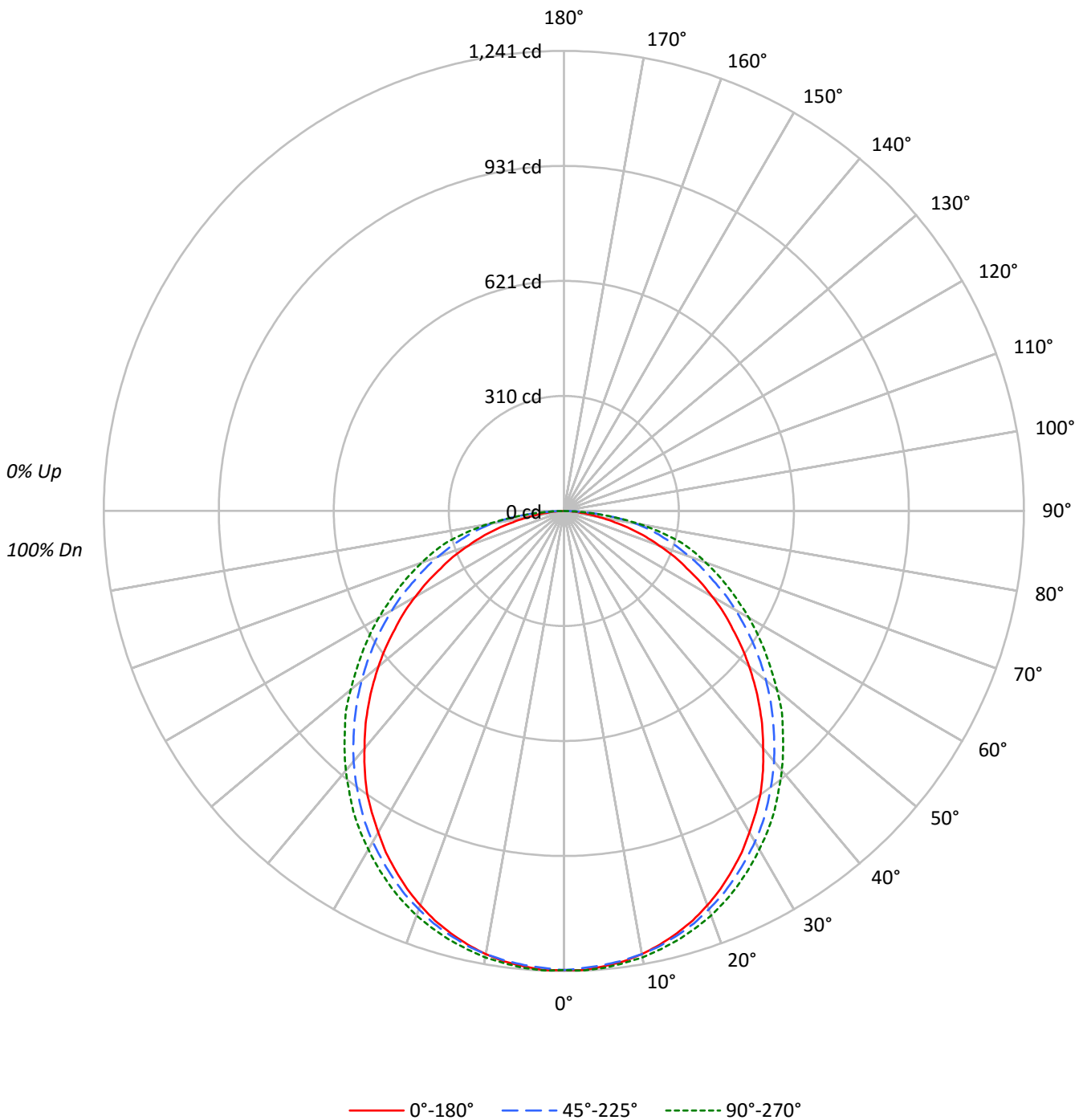
Lumens per Lamp: N/A  
Luminaire Lumens: 3525.0 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 32.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1666	1666	1666
5°	1665	1660	1671
10°	1658	1658	1671
15°	1642	1650	1667
20°	1621	1637	1663
25°	1591	1621	1652
30°	1555	1602	1639
35°	1521	1576	1626
40°	1469	1550	1607
45°	1421	1519	1589
50°	1366	1491	1570
55°	1305	1463	1555
60°	1244	1440	1552
65°	1166	1415	1561
70°	1079	1423	1603
75°	966	1449	1694
80°	781	1536	1657
85°	588	1348	1314



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.2	3.3
10°-20°	335.0	9.5
20°-30°	503.6	14.3
30°-40°	599.8	17.0
40°-50°	613.9	17.4
50°-60°	552.7	15.7
60°-70°	434.0	12.3
70°-80°	281.7	8.0
80°-90°	87.1	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°	955.8	27.1
0°-40°	1555.6	44.1
0°-60°	2722.2	77.2
0°-90°	3525.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3525.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1238	1238	1238	1238	1238	
5°	1233	1235	1229	1236	1237	117
15°	1179	1182	1185	1195	1197	332
25°	1072	1080	1092	1110	1113	494
35°	926	937	960	983	990	578
45°	747	765	798	829	835	576
55°	556	581	624	656	663	499
65°	366	394	444	482	490	364
75°	186	222	279	317	326	197
85°	38	70	87	85	85	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1238.4	1238.4	1238.4	1238.4	1238.4
2.5°	1239.5	1239.5	1233.9	1239.5	1240.6
5°	1232.8	1235.0	1229.4	1236.1	1237.2
7.5°	1226.0	1226.0	1222.7	1229.4	1230.5
10°	1213.7	1214.8	1213.7	1221.6	1222.7
12.5°	1198.0	1200.3	1201.4	1209.2	1210.4
15°	1179.0	1182.4	1184.6	1194.7	1196.9
17.5°	1157.7	1161.1	1166.7	1177.9	1180.1
20°	1132.0	1136.5	1143.2	1157.7	1161.1
22.5°	1104.0	1108.5	1119.7	1133.1	1138.7
25°	1071.5	1080.5	1091.7	1109.6	1113.0
27.5°	1039.1	1046.9	1061.4	1080.5	1085.0
30°	1001.0	1013.3	1031.2	1050.3	1054.7
32.5°	964.0	976.4	997.6	1017.8	1023.4
35°	926.0	937.2	959.6	983.1	989.8
37.5°	882.3	896.9	921.5	945.0	951.7
40°	836.4	854.3	882.3	906.9	914.8
42.5°	792.7	811.8	839.8	866.6	875.6
45°	746.8	764.7	798.3	828.6	835.3
47.5°	699.8	719.9	755.8	786.0	797.2
50°	652.8	674.0	712.1	743.5	750.2
52.5°	605.7	628.1	668.4	702.0	705.4
55°	556.5	581.1	623.7	656.1	662.8
57.5°	511.7	533.0	578.9	612.5	620.3
60°	462.4	485.9	535.2	566.6	576.6
62.5°	415.4	440.0	491.5	522.9	531.8
65°	366.1	394.1	444.5	481.5	490.4
67.5°	323.6	350.5	404.2	440.0	449.0
70°	274.3	304.6	361.7	398.6	407.6
72.5°	231.8	263.1	320.2	356.1	369.5
75°	185.9	221.7	278.8	316.9	325.8
77.5°	141.1	182.5	240.7	269.8	269.8
80°	100.8	144.4	198.2	211.6	213.9
82.5°	66.1	108.6	146.7	145.6	145.6
85°	38.1	70.5	87.3	85.1	85.1
87.5°	14.6	29.1	31.4	31.4	30.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)