

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: P311431

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP250-W2A-U-5000K**

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: P311431  
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-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 5000K 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**

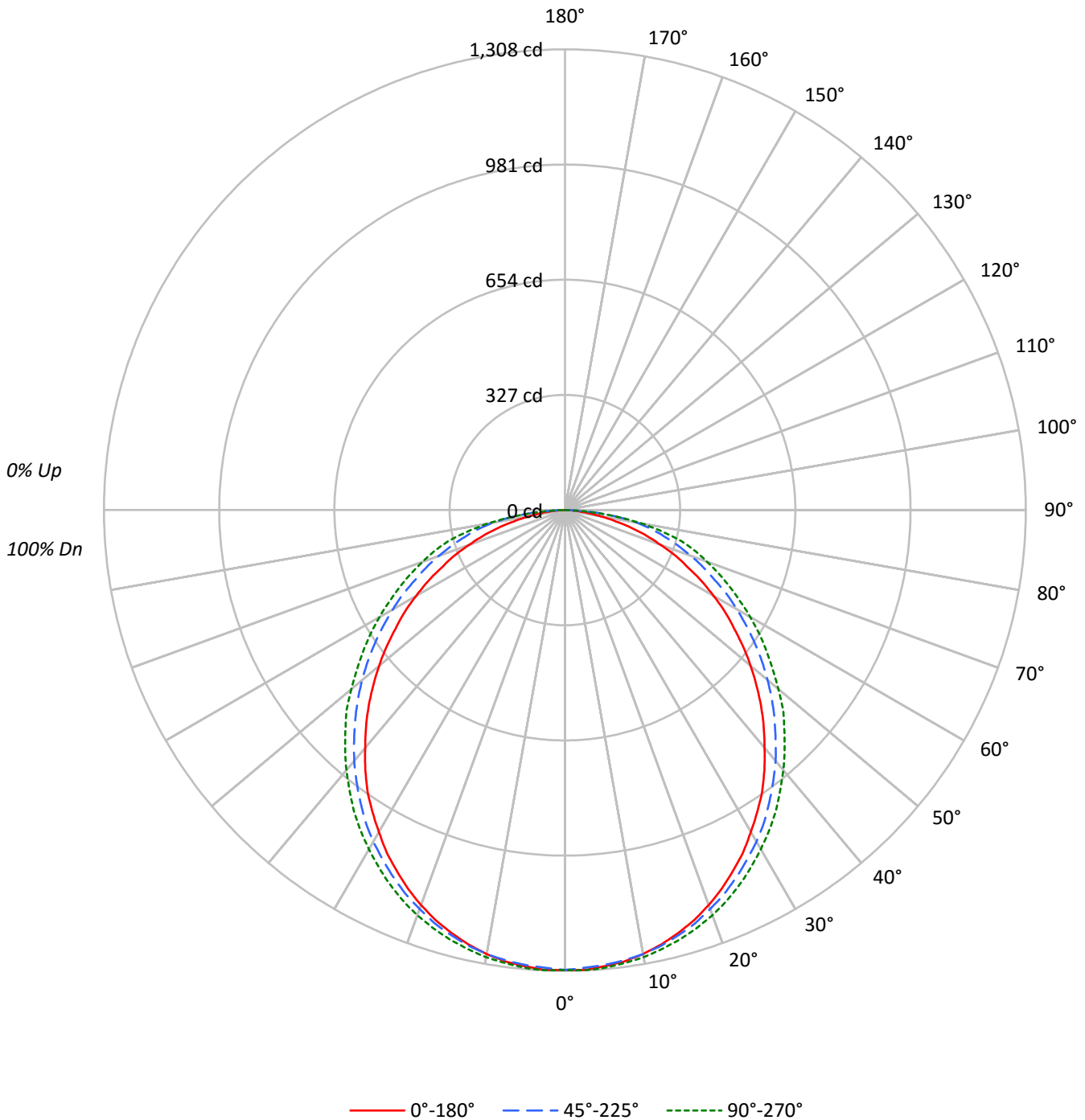
Lumens per Lamp: N/A  
Luminaire Lumens: 3716.0 lumens  
Efficiency: N/A  
Efficacy: 110.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1757	1757	1757
5°	1755	1750	1762
10°	1748	1748	1761
15°	1731	1740	1758
20°	1709	1726	1753
25°	1677	1708	1742
30°	1639	1689	1727
35°	1603	1662	1714
40°	1549	1634	1694
45°	1498	1601	1675
50°	1440	1571	1655
55°	1376	1542	1639
60°	1312	1518	1636
65°	1229	1492	1646
70°	1138	1500	1690
75°	1018	1528	1786
80°	823	1619	1746
85°	619	1422	1385



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.6	3.3
10°-20°	353.1	9.5
20°-30°	530.8	14.3
30°-40°	632.3	17.0
40°-50°	647.2	17.4
50°-60°	582.6	15.7
60°-70°	457.5	12.3
70°-80°	297.0	8.0
80°-90°	91.8	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°	1007.6	27.1
0°-40°	1639.9	44.1
0°-60°	2869.7	77.2
0°-90°	3716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3716.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1306	1306	1306	1306	1306	
5°	1300	1302	1296	1303	1304	123
15°	1243	1246	1249	1259	1262	350
25°	1130	1139	1151	1170	1173	520
35°	976	988	1012	1036	1043	609
45°	787	806	842	874	880	607
55°	587	613	657	692	699	526
65°	386	416	469	508	517	384
75°	196	234	294	334	344	207
85°	40	74	92	90	90	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1305.5	1305.5	1305.5	1305.5	1305.5
2.5°	1306.6	1306.6	1300.7	1306.6	1307.8
5°	1299.6	1301.9	1296.0	1303.1	1304.3
7.5°	1292.5	1292.5	1288.9	1296.0	1297.2
10°	1279.5	1280.7	1279.5	1287.7	1288.9
12.5°	1263.0	1265.3	1266.5	1274.8	1275.9
15°	1242.9	1246.4	1248.8	1259.4	1261.8
17.5°	1220.5	1224.0	1229.9	1241.7	1244.1
20°	1193.3	1198.0	1205.1	1220.5	1224.0
22.5°	1163.8	1168.5	1180.3	1194.5	1200.4
25°	1129.6	1139.0	1150.8	1169.7	1173.3
27.5°	1095.4	1103.6	1119.0	1139.0	1143.7
30°	1055.2	1068.2	1087.1	1107.2	1111.9
32.5°	1016.3	1029.3	1051.7	1072.9	1078.8
35°	976.1	987.9	1011.6	1036.3	1043.4
37.5°	930.1	945.5	971.4	996.2	1003.3
40°	881.7	900.6	930.1	956.1	964.3
42.5°	835.7	855.7	885.3	913.6	923.0
45°	787.3	806.2	841.6	873.5	880.5
47.5°	737.7	759.0	796.7	828.6	840.4
50°	688.1	710.6	750.7	783.7	790.8
52.5°	638.6	662.2	704.7	740.1	743.6
55°	586.6	612.6	657.4	691.7	698.8
57.5°	539.4	561.8	610.2	645.6	653.9
60°	487.5	512.3	564.2	597.3	607.9
62.5°	437.9	463.9	518.2	551.2	560.7
65°	386.0	415.5	468.6	507.5	517.0
67.5°	341.1	369.4	426.1	463.9	473.3
70°	289.2	321.1	381.2	420.2	429.6
72.5°	244.3	277.4	337.6	375.3	389.5
75°	195.9	233.7	293.9	334.0	343.5
77.5°	148.7	192.4	253.8	284.5	284.5
80°	106.2	152.3	208.9	223.1	225.4
82.5°	69.6	114.5	154.6	153.4	153.4
85°	40.1	74.4	92.1	89.7	89.7
87.5°	15.3	30.7	33.0	33.0	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)