

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: P314312

Luminaire Tested: **24FCZ2-40-UNV-L83050-S-CP250-W2A-U-4000K**

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: P314312  
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-L83050-S-CP250-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 4000K 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: 3789.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 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

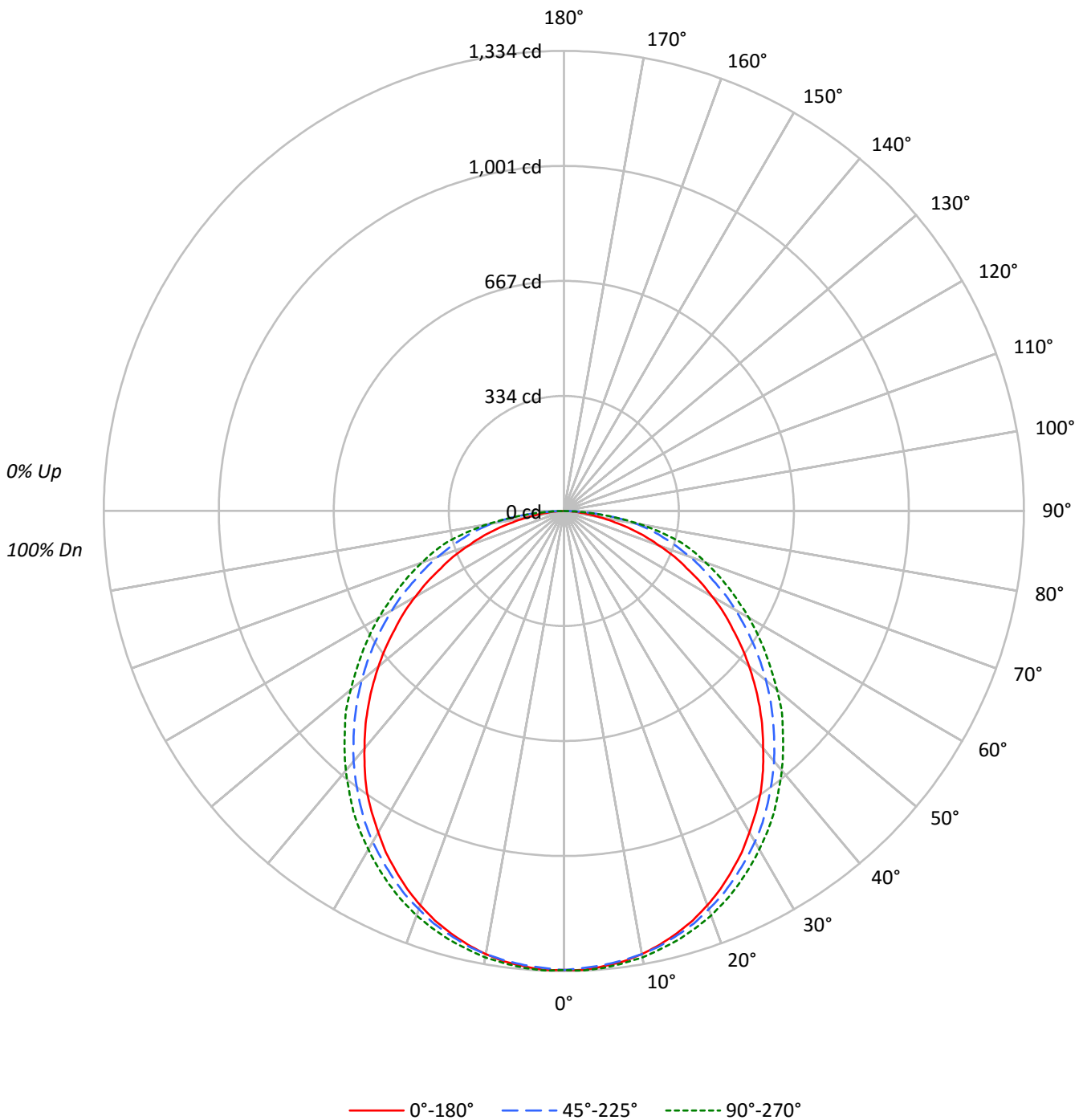
Input Watts (W): 33.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1791	1791	1791
5°	1790	1785	1796
10°	1782	1782	1796
15°	1765	1774	1792
20°	1742	1759	1787
25°	1710	1742	1776
30°	1672	1722	1761
35°	1635	1694	1747
40°	1579	1666	1727
45°	1528	1633	1708
50°	1469	1602	1688
55°	1403	1573	1671
60°	1338	1548	1668
65°	1253	1521	1678
70°	1160	1529	1723
75°	1039	1558	1821
80°	839	1650	1781
85°	631	1450	1413



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.0	3.3
10°-20°	360.1	9.5
20°-30°	541.3	14.3
30°-40°	644.7	17.0
40°-50°	659.9	17.4
50°-60°	594.1	15.7
60°-70°	466.5	12.3
70°-80°	302.8	8.0
80°-90°	93.7	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°	1027.4	27.1
0°-40°	1672.1	44.1
0°-60°	2926.0	77.2
0°-90°	3789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3789.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1331	1331	1331	1331	1331	
5°	1325	1328	1322	1329	1330	126
15°	1267	1271	1273	1284	1287	357
25°	1152	1161	1173	1193	1196	531
35°	995	1007	1031	1057	1064	621
45°	803	822	858	891	898	619
55°	598	625	670	705	712	536
65°	394	424	478	518	527	392
75°	200	238	300	341	350	211
85°	41	76	94	92	92	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1331.1	1331.1	1331.1	1331.1	1331.1
2.5°	1332.3	1332.3	1326.3	1332.3	1333.5
5°	1325.1	1327.5	1321.5	1328.7	1329.9
7.5°	1317.9	1317.9	1314.3	1321.5	1322.7
10°	1304.6	1305.8	1304.6	1313.0	1314.3
12.5°	1287.8	1290.2	1291.4	1299.8	1301.0
15°	1267.3	1270.9	1273.3	1284.2	1286.6
17.5°	1244.4	1248.1	1254.1	1266.1	1268.5
20°	1216.8	1221.6	1228.8	1244.4	1248.1
22.5°	1186.7	1191.5	1203.5	1218.0	1224.0
25°	1151.8	1161.4	1173.4	1192.7	1196.3
27.5°	1116.9	1125.3	1140.9	1161.4	1166.2
30°	1076.0	1089.2	1108.4	1128.9	1133.7
32.5°	1036.2	1049.5	1072.3	1094.0	1100.0
35°	995.3	1007.4	1031.4	1056.7	1063.9
37.5°	948.4	964.0	990.5	1015.8	1023.0
40°	899.0	918.3	948.4	974.9	983.3
42.5°	852.1	872.6	902.6	931.5	941.2
45°	802.8	822.0	858.1	890.6	897.8
47.5°	752.2	773.9	812.4	844.9	856.9
50°	701.7	724.5	765.4	799.1	806.4
52.5°	651.1	675.2	718.5	754.6	758.2
55°	598.2	624.6	670.4	705.3	712.5
57.5°	550.0	572.9	622.2	658.3	666.8
60°	497.1	522.3	575.3	609.0	619.8
62.5°	446.5	473.0	528.3	562.0	571.7
65°	393.6	423.6	477.8	517.5	527.1
67.5°	347.8	376.7	434.5	473.0	482.6
70°	294.9	327.4	388.7	428.5	438.1
72.5°	249.1	282.8	344.2	382.7	397.2
75°	199.8	238.3	299.7	340.6	350.2
77.5°	151.6	196.2	258.8	290.0	290.0
80°	108.3	155.3	213.0	227.5	229.9
82.5°	71.0	116.7	157.7	156.5	156.5
85°	40.9	75.8	93.9	91.5	91.5
87.5°	15.6	31.3	33.7	33.7	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)