

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: P314405

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP187-W2A-U-3000K**

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: P314405  
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: 24FCZ2-50-UNV-L83050-S-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 3000K 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: 4249.0 lumens  
Efficiency: N/A  
Efficacy: 99.7 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

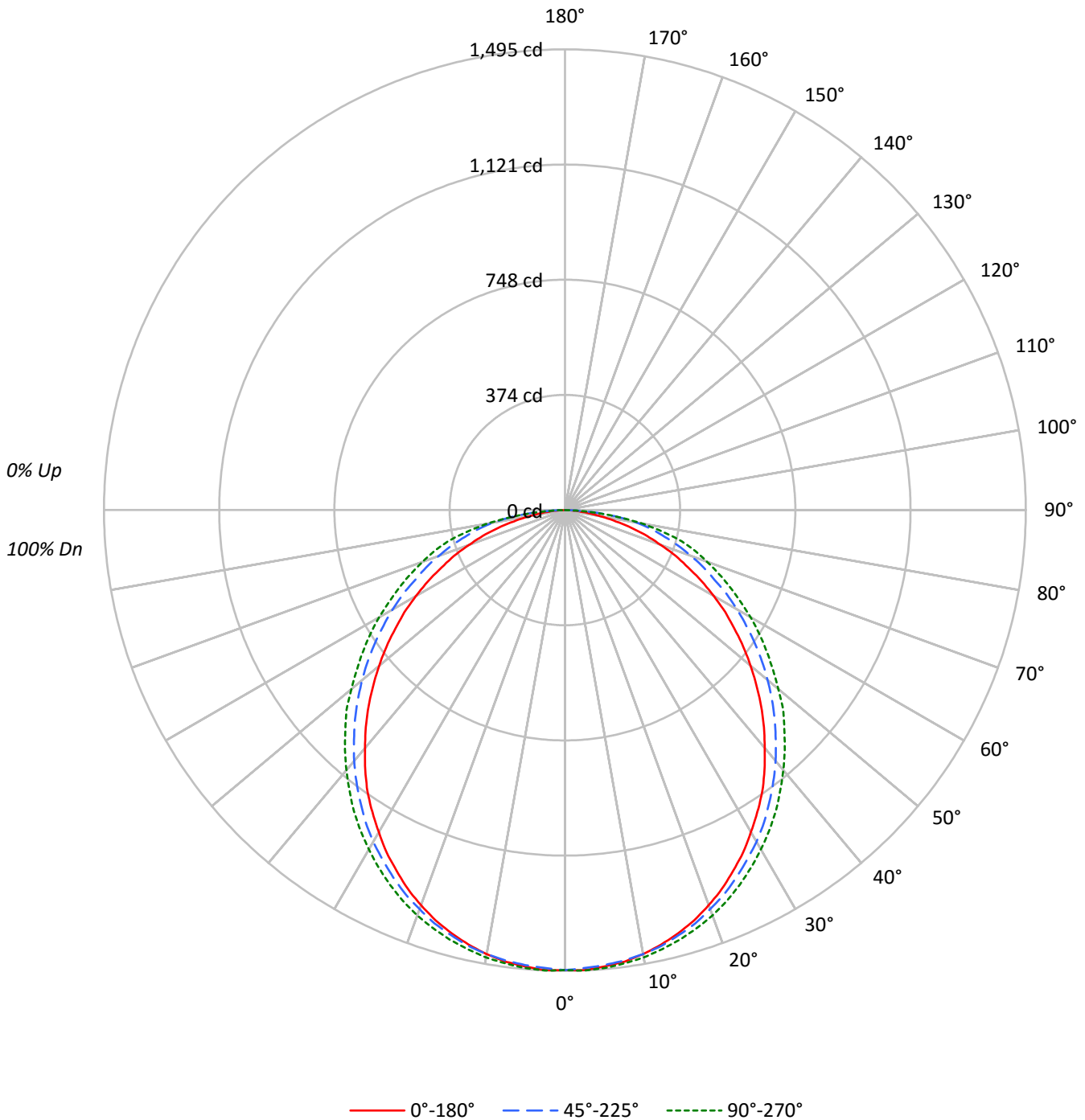
Input Watts (W): 42.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2008	2008	2008
5°	2007	2001	2014
10°	1999	1999	2014
15°	1980	1989	2010
20°	1954	1973	2004
25°	1917	1954	1992
30°	1875	1931	1975
35°	1833	1900	1960
40°	1771	1868	1937
45°	1713	1831	1916
50°	1647	1797	1893
55°	1574	1763	1874
60°	1500	1736	1870
65°	1405	1706	1882
70°	1301	1715	1933
75°	1164	1747	2041
80°	941	1851	1998
85°	709	1626	1584



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.3	3.3
10°-20°	403.8	9.5
20°-30°	607.0	14.3
30°-40°	723.0	17.0
40°-50°	740.0	17.4
50°-60°	666.2	15.7
60°-70°	523.2	12.3
70°-80°	339.6	8.0
80°-90°	105.0	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°	1152.1	27.1
0°-40°	1875.1	44.1
0°-60°	3281.3	77.2
0°-90°	4249.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4249.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1493	1493	1493	1493	1493	
5°	1486	1489	1482	1490	1491	141
15°	1421	1425	1428	1440	1443	401
25°	1292	1302	1316	1338	1342	595
35°	1116	1130	1157	1185	1193	696
45°	900	922	962	999	1007	694
55°	671	700	752	791	799	601
65°	441	475	536	580	591	439
75°	224	267	336	382	393	237
85°	46	85	105	103	103	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1492.7	1492.7	1492.7	1492.7	1492.7
2.5°	1494.1	1494.1	1487.3	1494.1	1495.4
5°	1486.0	1488.7	1481.9	1490.0	1491.4
7.5°	1477.9	1477.9	1473.8	1481.9	1483.3
10°	1463.0	1464.4	1463.0	1472.5	1473.8
12.5°	1444.1	1446.8	1448.2	1457.6	1459.0
15°	1421.2	1425.2	1427.9	1440.1	1442.8
17.5°	1395.5	1399.6	1406.3	1419.8	1422.5
20°	1364.5	1369.9	1378.0	1395.5	1399.6
22.5°	1330.7	1336.1	1349.6	1365.8	1372.6
25°	1291.6	1302.4	1315.9	1337.5	1341.5
27.5°	1252.5	1261.9	1279.5	1302.4	1307.8
30°	1206.6	1221.4	1243.0	1266.0	1271.4
32.5°	1162.0	1176.9	1202.5	1226.8	1233.6
35°	1116.2	1129.6	1156.6	1185.0	1193.1
37.5°	1063.5	1081.1	1110.8	1139.1	1147.2
40°	1008.2	1029.8	1063.5	1093.2	1102.7
42.5°	955.5	978.5	1012.2	1044.6	1055.4
45°	900.2	921.8	962.3	998.7	1006.8
47.5°	843.5	867.8	911.0	947.4	960.9
50°	786.8	812.5	858.4	896.2	904.3
52.5°	730.2	757.1	805.7	846.2	850.3
55°	670.8	700.5	751.7	790.9	799.0
57.5°	616.8	642.4	697.8	738.3	747.7
60°	557.4	585.7	645.1	682.9	695.1
62.5°	500.7	530.4	592.5	630.3	641.1
65°	441.3	475.1	535.8	580.3	591.1
67.5°	390.0	422.4	487.2	530.4	541.2
70°	330.7	367.1	435.9	480.5	491.3
72.5°	279.4	317.2	386.0	429.2	445.4
75°	224.0	267.2	336.1	381.9	392.7
77.5°	170.1	220.0	290.2	325.3	325.3
80°	121.5	174.1	238.9	255.1	257.8
82.5°	79.6	130.9	176.8	175.5	175.5
85°	45.9	85.0	105.3	102.6	102.6
87.5°	17.5	35.1	37.8	37.8	36.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)