

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: P311609

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P311609  
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-L82765-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**

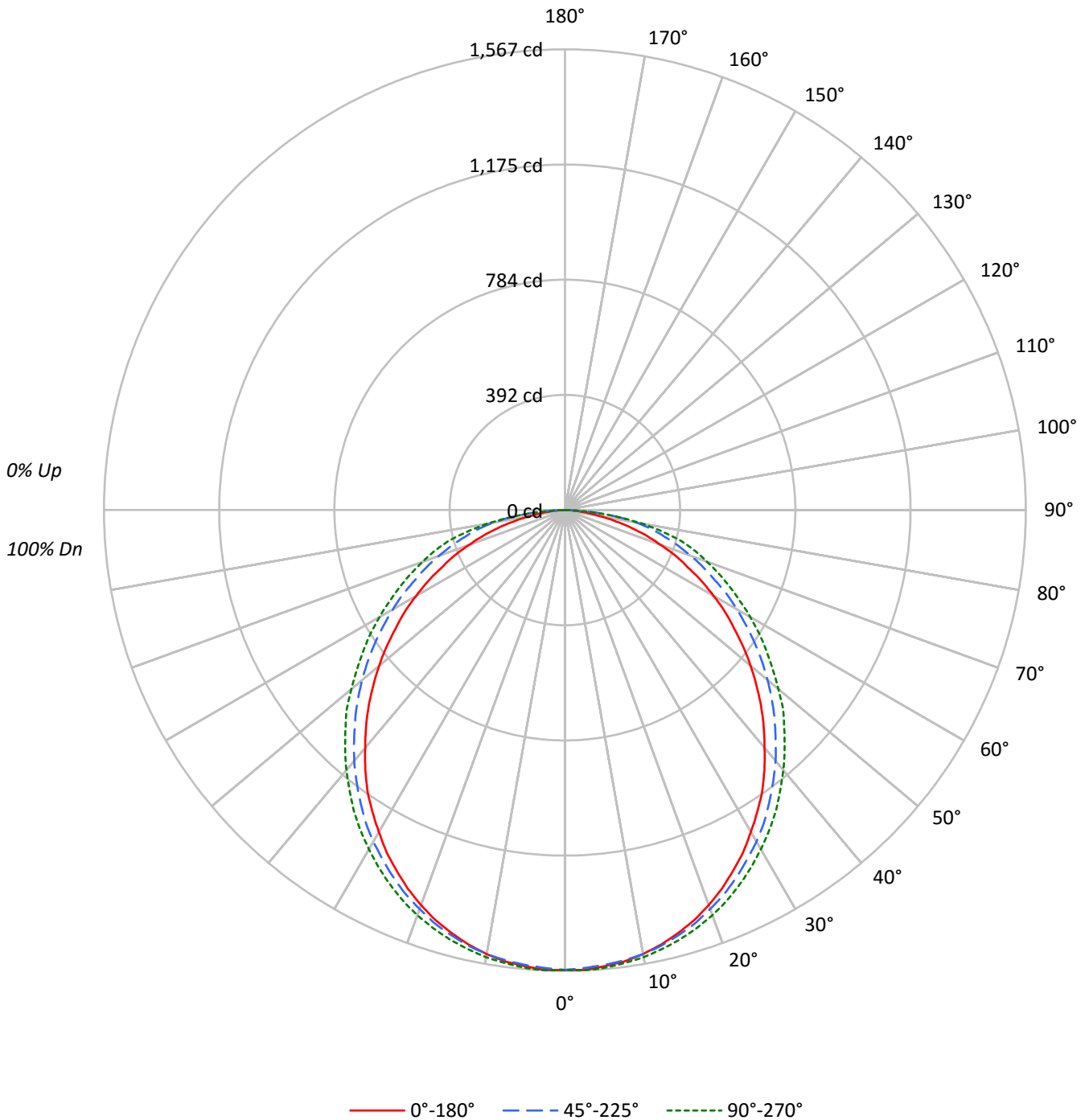
Lumens per Lamp: N/A  
Luminaire Lumens: 4452.0 lumens  
Efficiency: N/A  
Efficacy: 103.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2104	2104	2104
5°	2103	2097	2110
10°	2094	2094	2110
15°	2074	2084	2106
20°	2047	2067	2100
25°	2009	2047	2087
30°	1964	2023	2070
35°	1921	1991	2053
40°	1855	1957	2029
45°	1795	1919	2007
50°	1726	1883	1983
55°	1649	1848	1964
60°	1572	1819	1960
65°	1472	1787	1972
70°	1363	1797	2025
75°	1220	1830	2139
80°	986	1939	2093
85°	743	1703	1660



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.1	3.3
10°-20°	423.1	9.5
20°-30°	636.0	14.3
30°-40°	757.6	17.0
40°-50°	775.3	17.4
50°-60°	698.0	15.7
60°-70°	548.2	12.3
70°-80°	355.8	8.0
80°-90°	110.0	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°	1207.1	27.1
0°-40°	1964.7	44.1
0°-60°	3438.0	77.2
0°-90°	4452.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4452.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1564	1564	1564	1564	1564	
5°	1557	1560	1553	1561	1563	148
15°	1489	1493	1496	1509	1512	420
25°	1353	1365	1379	1401	1406	623
35°	1170	1184	1212	1242	1250	730
45°	943	966	1008	1046	1055	727
55°	703	734	788	829	837	630
65°	462	498	561	608	619	460
75°	235	280	352	400	412	248
85°	48	89	110	108	108	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1564.0	1564.0	1564.0	1564.0	1564.0
2.5°	1565.4	1565.4	1558.4	1565.4	1566.8
5°	1556.9	1559.8	1552.7	1561.2	1562.6
7.5°	1548.5	1548.5	1544.2	1552.7	1554.1
10°	1532.9	1534.3	1532.9	1542.8	1544.2
12.5°	1513.1	1515.9	1517.4	1527.2	1528.7
15°	1489.1	1493.3	1496.1	1508.9	1511.7
17.5°	1462.2	1466.4	1473.5	1487.7	1490.5
20°	1429.7	1435.3	1443.8	1462.2	1466.4
22.5°	1394.3	1400.0	1414.1	1431.1	1438.2
25°	1353.3	1364.6	1378.8	1401.4	1405.6
27.5°	1312.3	1322.2	1340.6	1364.6	1370.3
30°	1264.2	1279.8	1302.4	1326.4	1332.1
32.5°	1217.6	1233.1	1260.0	1285.4	1292.5
35°	1169.5	1183.6	1211.9	1241.6	1250.1
37.5°	1114.3	1132.7	1163.8	1193.5	1202.0
40°	1056.3	1079.0	1114.3	1145.4	1155.3
42.5°	1001.2	1025.2	1060.6	1094.5	1105.8
45°	943.2	965.8	1008.3	1046.4	1054.9
47.5°	883.8	909.3	954.5	992.7	1006.9
50°	824.4	851.3	899.4	939.0	947.5
52.5°	765.0	793.3	844.2	886.7	890.9
55°	702.8	733.9	787.7	828.7	837.2
57.5°	646.3	673.1	731.1	773.5	783.4
60°	584.0	613.7	675.9	715.5	728.3
62.5°	524.6	555.7	620.8	660.4	671.7
65°	462.4	497.8	561.4	608.1	619.4
67.5°	408.7	442.6	510.5	555.7	567.1
70°	346.5	384.6	456.8	503.4	514.7
72.5°	292.7	332.3	404.4	449.7	466.7
75°	234.7	280.0	352.1	400.2	411.5
77.5°	178.2	230.5	304.0	340.8	340.8
80°	127.3	182.4	250.3	267.3	270.1
82.5°	83.4	137.2	185.2	183.8	183.8
85°	48.1	89.1	110.3	107.5	107.5
87.5°	18.4	36.8	39.6	39.6	38.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)