

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: P314413

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP250-W2A-U-4500K**

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: P314413  
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-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 4500K 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: 4727.0 lumens  
Efficiency: N/A  
Efficacy: 105.5 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

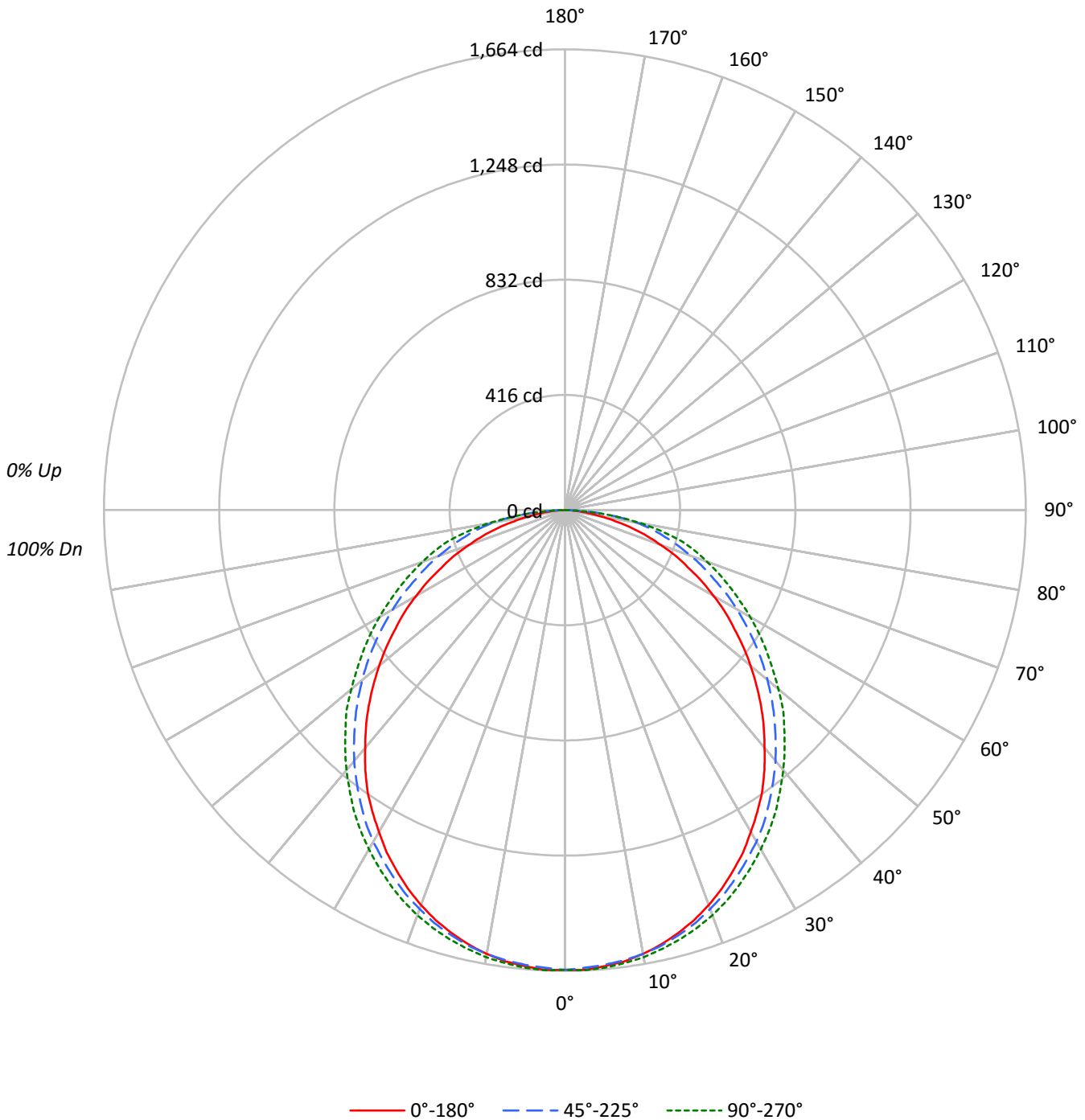
Input Watts (W): 44.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2234	2234	2234
5°	2233	2227	2241
10°	2224	2224	2240
15°	2202	2213	2236
20°	2174	2195	2229
25°	2133	2173	2216
30°	2085	2149	2197
35°	2040	2114	2180
40°	1970	2078	2155
45°	1906	2037	2131
50°	1832	1999	2106
55°	1750	1962	2085
60°	1669	1931	2081
65°	1563	1898	2094
70°	1447	1908	2150
75°	1295	1944	2271
80°	1047	2060	2222
85°	787	1808	1761



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.2	3.3
10°-20°	449.2	9.5
20°-30°	675.3	14.3
30°-40°	804.4	17.0
40°-50°	823.2	17.4
50°-60°	741.1	15.7
60°-70°	582.0	12.3
70°-80°	377.7	8.0
80°-90°	116.8	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°	1281.7	27.1
0°-40°	2086.0	44.1
0°-60°	3650.4	77.2
0°-90°	4727.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4727.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1661	1661	1661	1661	1661	
5°	1653	1656	1649	1658	1659	157
15°	1581	1586	1589	1602	1605	446
25°	1437	1449	1464	1488	1492	662
35°	1242	1257	1287	1318	1327	775
45°	1002	1026	1070	1111	1120	772
55°	746	779	836	880	889	669
65°	491	528	596	646	658	489
75°	249	297	374	425	437	264
85°	51	95	117	114	114	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1660.6	1660.6	1660.6	1660.6	1660.6
2.5°	1662.1	1662.1	1654.6	1662.1	1663.6
5°	1653.1	1656.1	1648.6	1657.6	1659.1
7.5°	1644.1	1644.1	1639.6	1648.6	1650.1
10°	1627.6	1629.1	1627.6	1638.1	1639.6
12.5°	1606.6	1609.6	1611.1	1621.6	1623.1
15°	1581.0	1585.6	1588.6	1602.1	1605.1
17.5°	1552.5	1557.0	1564.5	1579.5	1582.5
20°	1518.0	1524.0	1533.0	1552.5	1557.0
22.5°	1480.4	1486.5	1501.5	1519.5	1527.0
25°	1436.9	1448.9	1463.9	1488.0	1492.5
27.5°	1393.4	1403.9	1423.4	1448.9	1454.9
30°	1342.3	1358.8	1382.9	1408.4	1414.4
32.5°	1292.8	1309.3	1337.8	1364.8	1372.3
35°	1241.7	1256.7	1286.8	1318.3	1327.3
37.5°	1183.2	1202.7	1235.7	1267.2	1276.2
40°	1121.6	1145.6	1183.2	1216.2	1226.7
42.5°	1063.0	1088.6	1126.1	1162.1	1174.1
45°	1001.5	1025.5	1070.5	1111.1	1120.1
47.5°	938.4	965.4	1013.5	1054.0	1069.0
50°	875.4	903.9	954.9	997.0	1006.0
52.5°	812.3	842.3	896.4	941.4	945.9
55°	746.2	779.3	836.3	879.9	888.9
57.5°	686.2	714.7	776.3	821.3	831.8
60°	620.1	651.6	717.7	759.7	773.3
62.5°	557.0	590.1	659.1	701.2	713.2
65°	491.0	528.5	596.1	645.6	657.6
67.5°	433.9	470.0	542.0	590.1	602.1
70°	367.9	408.4	485.0	534.5	546.5
72.5°	310.8	352.8	429.4	477.5	495.5
75°	249.2	297.3	373.9	424.9	436.9
77.5°	189.2	244.7	322.8	361.9	361.9
80°	135.1	193.7	265.8	283.8	286.8
82.5°	88.6	145.6	196.7	195.2	195.2
85°	51.0	94.6	117.1	114.1	114.1
87.5°	19.5	39.0	42.0	42.0	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)