

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: P314135

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CP250-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: P314135  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-70HE-UNV-L83050-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 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: 5654.0 lumens  
Efficiency: N/A  
Efficacy: 98.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

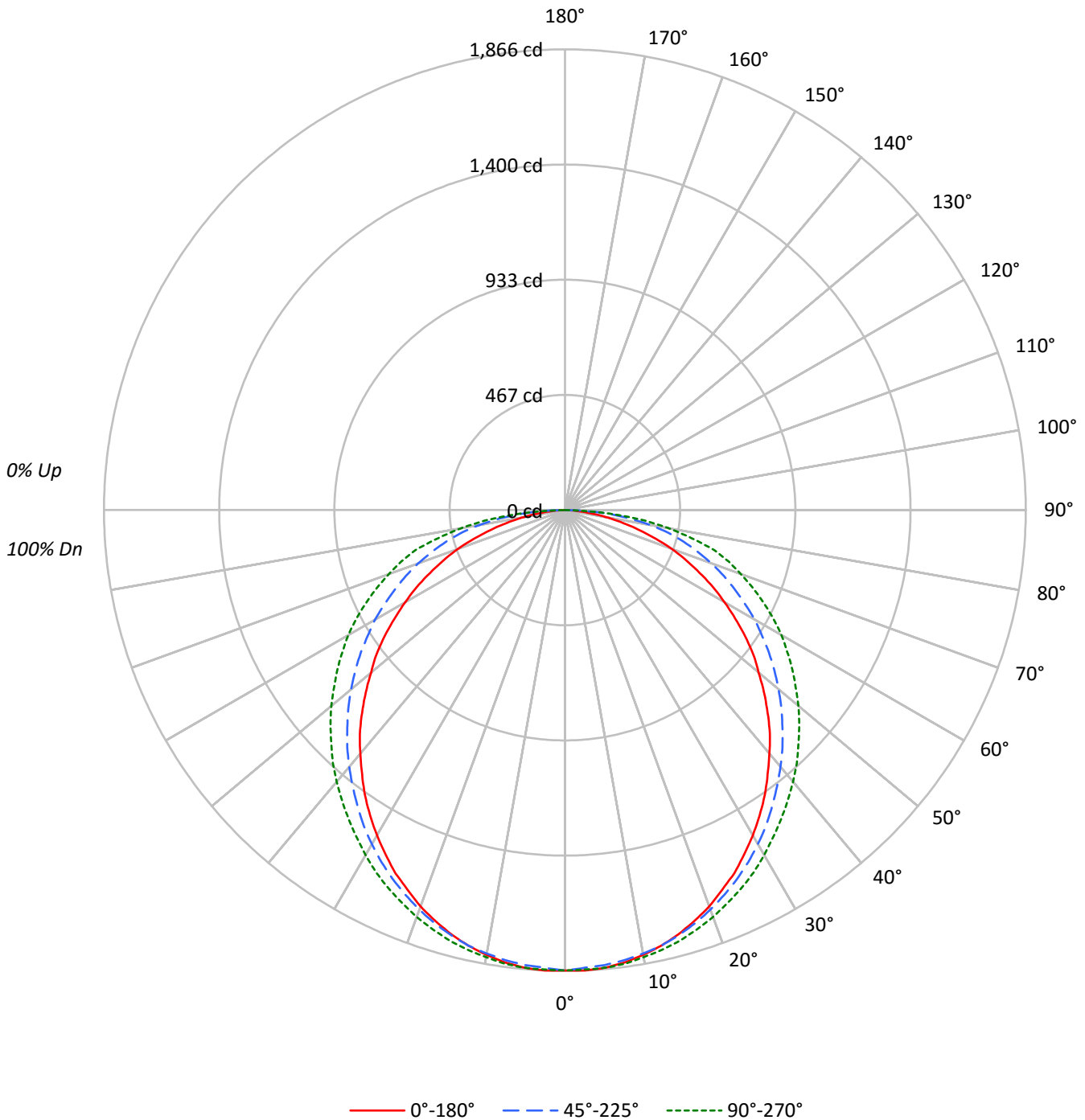
Input Watts (W): 57.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2509	2509	2509
5°	2513	2498	2513
10°	2499	2491	2512
15°	2477	2482	2514
20°	2447	2466	2511
25°	2409	2448	2509
30°	2364	2428	2506
35°	2317	2403	2508
40°	2263	2385	2524
45°	2210	2370	2545
50°	2144	2364	2584
55°	2090	2367	2636
60°	2009	2388	2726
65°	1917	2413	2825
70°	1816	2487	2982
75°	1619	2594	3257
80°	1381	2747	3329
85°	985	2722	3185



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.5	3.1
10°-20°	504.6	8.9
20°-30°	762.1	13.5
30°-40°	918.5	16.2
40°-50°	964.3	17.1
50°-60°	902.2	16.0
60°-70°	745.0	13.2
70°-80°	507.7	9.0
80°-90°	173.1	3.1
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°	1443.2	25.5
0°-40°	2361.7	41.8
0°-60°	4228.2	74.8
0°-90°	5654.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5654.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1865	1865	1865	1865	1865	
5°	1861	1859	1850	1861	1861	177
15°	1778	1780	1782	1801	1805	501
25°	1623	1630	1649	1681	1690	747
35°	1411	1426	1463	1512	1527	882
45°	1161	1186	1246	1313	1338	896
55°	891	927	1009	1092	1124	795
65°	602	653	758	854	887	597
75°	311	383	499	593	626	332
85°	64	126	176	199	206	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1864.6	1864.6	1864.6	1864.6	1864.6
2.5°	1866.5	1864.6	1855.3	1864.6	1862.8
5°	1860.9	1859.0	1849.6	1860.9	1860.9
7.5°	1847.8	1847.8	1838.4	1851.5	1853.4
10°	1829.0	1829.0	1823.4	1838.4	1838.4
12.5°	1806.5	1806.5	1806.5	1821.5	1823.4
15°	1778.3	1780.2	1782.1	1800.9	1804.6
17.5°	1744.6	1748.3	1754.0	1776.5	1780.2
20°	1708.9	1712.7	1722.1	1748.3	1754.0
22.5°	1663.9	1673.3	1686.4	1716.4	1722.1
25°	1622.6	1630.2	1648.9	1680.8	1690.2
27.5°	1572.0	1583.3	1607.6	1641.4	1654.5
30°	1521.4	1532.6	1562.6	1602.0	1613.3
32.5°	1467.0	1483.8	1515.7	1557.0	1570.1
35°	1410.7	1425.7	1463.2	1512.0	1527.0
37.5°	1348.8	1369.4	1410.7	1463.2	1482.0
40°	1288.7	1311.3	1358.1	1414.4	1436.9
42.5°	1228.7	1251.2	1303.7	1367.5	1390.0
45°	1161.2	1185.6	1245.6	1313.1	1337.5
47.5°	1093.6	1123.7	1189.3	1260.6	1286.9
50°	1024.2	1058.0	1129.3	1204.3	1234.3
52.5°	962.3	994.2	1069.3	1149.9	1178.1
55°	891.1	926.7	1009.2	1091.8	1123.7
57.5°	817.9	857.3	945.5	1035.5	1067.4
60°	746.6	789.8	887.3	977.3	1013.0
62.5°	677.2	720.3	821.6	915.4	951.1
65°	602.2	652.8	757.9	853.5	887.3
67.5°	530.9	585.3	696.0	789.8	823.5
70°	461.5	514.0	632.2	724.1	757.9
72.5°	386.4	446.5	564.6	660.3	696.0
75°	311.4	382.7	499.0	592.8	626.5
77.5°	242.0	315.2	431.5	508.4	525.3
80°	178.2	253.2	354.5	408.9	429.6
82.5°	114.4	189.5	270.1	309.5	326.4
85°	63.8	125.7	176.3	198.8	206.3
87.5°	26.3	54.4	71.3	80.7	80.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)