

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: P313942

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CA08-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: P313942  
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: 24FCZ2-45HE-UNV-L83050-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 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**

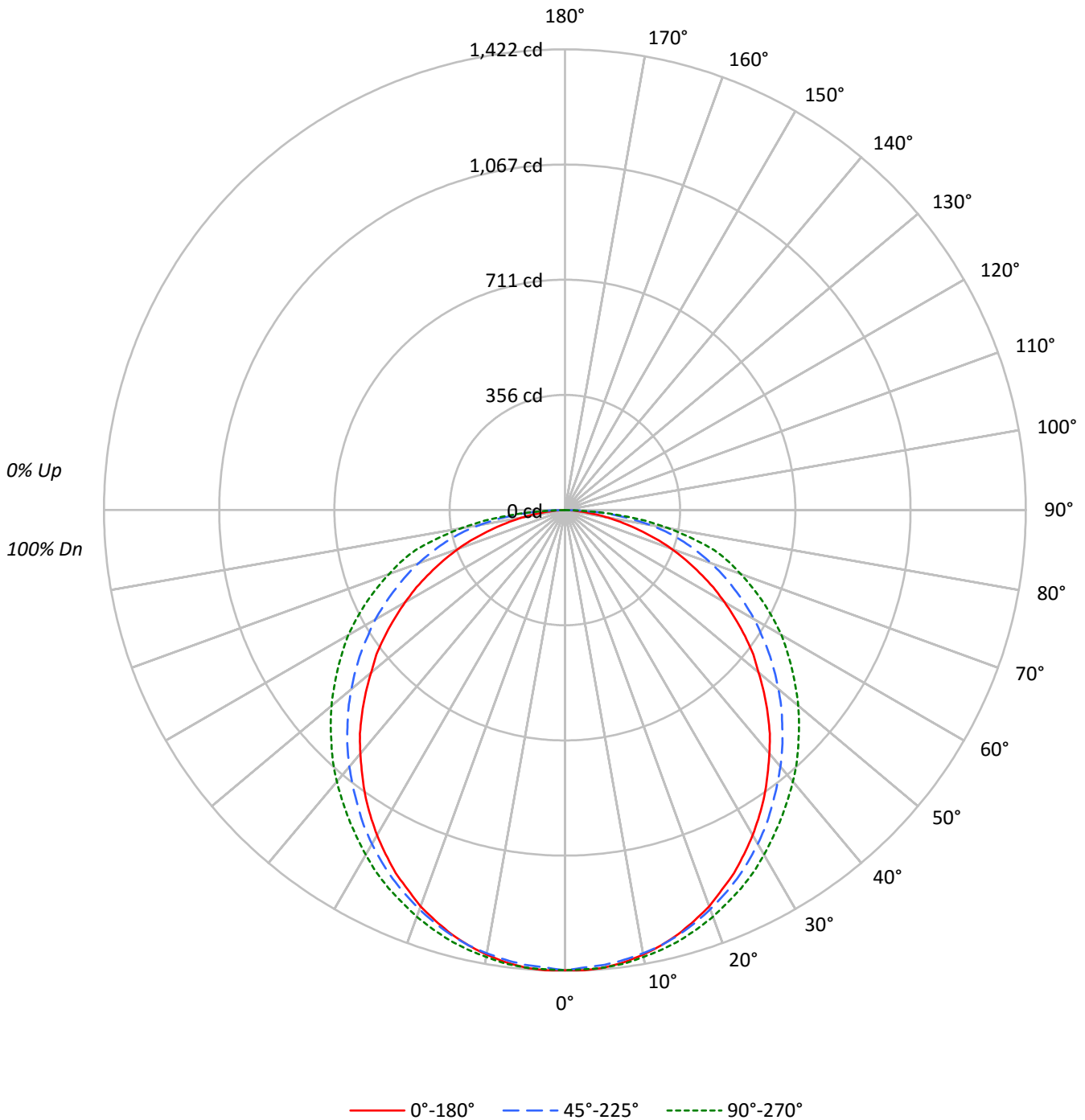
Lumens per Lamp: N/A  
Luminaire Lumens: 4306.0 lumens  
Efficiency: N/A  
Efficacy: 124.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	1911	1911	1911
5°	1914	1903	1914
10°	1903	1897	1913
15°	1887	1891	1914
20°	1864	1878	1913
25°	1835	1864	1911
30°	1800	1849	1909
35°	1765	1830	1910
40°	1724	1817	1922
45°	1683	1805	1938
50°	1633	1800	1968
55°	1592	1803	2008
60°	1530	1819	2076
65°	1460	1838	2152
70°	1382	1894	2271
75°	1233	1975	2481
80°	1051	2092	2535
85°	750	2073	2427



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.4	3.1
10°-20°	384.3	8.9
20°-30°	580.4	13.5
30°-40°	699.5	16.2
40°-50°	734.4	17.1
50°-60°	687.1	16.0
60°-70°	567.4	13.2
70°-80°	386.6	9.0
80°-90°	131.8	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°	1099.1	25.5
0°-40°	1798.6	41.8
0°-60°	3220.1	74.8
0°-90°	4306.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4306.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1417	1416	1409	1417	1417	134
15°	1354	1356	1357	1372	1374	382
25°	1236	1242	1256	1280	1287	569
35°	1074	1086	1114	1152	1163	671
45°	884	903	949	1000	1019	682
55°	679	706	769	832	856	606
65°	459	497	577	650	676	455
75°	237	291	380	452	477	253
85°	49	96	134	151	157	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1420.1	1420.1	1420.1	1420.1	1420.1
2.5°	1421.5	1420.1	1412.9	1420.1	1418.7
5°	1417.2	1415.8	1408.7	1417.2	1417.2
7.5°	1407.2	1407.2	1400.1	1410.1	1411.5
10°	1392.9	1392.9	1388.7	1400.1	1400.1
12.5°	1375.8	1375.8	1375.8	1387.2	1388.7
15°	1354.4	1355.8	1357.2	1371.5	1374.4
17.5°	1328.6	1331.5	1335.8	1352.9	1355.8
20°	1301.5	1304.4	1311.5	1331.5	1335.8
22.5°	1267.2	1274.4	1284.4	1307.2	1311.5
25°	1235.8	1241.5	1255.8	1280.1	1287.2
27.5°	1197.2	1205.8	1224.4	1250.1	1260.1
30°	1158.6	1167.2	1190.1	1220.1	1228.6
32.5°	1117.2	1130.1	1154.4	1185.8	1195.8
35°	1074.3	1085.8	1114.3	1151.5	1162.9
37.5°	1027.2	1042.9	1074.3	1114.3	1128.6
40°	981.5	998.6	1034.3	1077.2	1094.3
42.5°	935.8	952.9	992.9	1041.5	1058.6
45°	884.3	902.9	948.6	1000.1	1018.6
47.5°	832.9	855.8	905.8	960.1	980.1
50°	780.0	805.8	860.0	917.2	940.1
52.5°	732.9	757.2	814.3	875.8	897.2
55°	678.6	705.8	768.6	831.5	855.8
57.5°	622.9	652.9	720.0	788.6	812.9
60°	568.6	601.5	675.8	744.3	771.5
62.5°	515.7	548.6	625.8	697.2	724.3
65°	458.6	497.2	577.2	650.0	675.8
67.5°	404.3	445.7	530.0	601.5	627.2
70°	351.4	391.5	481.5	551.5	577.2
72.5°	294.3	340.0	430.0	502.9	530.0
75°	237.2	291.4	380.0	451.5	477.2
77.5°	184.3	240.0	328.6	387.2	400.0
80°	135.7	192.9	270.0	311.4	327.2
82.5°	87.1	144.3	205.7	235.7	248.6
85°	48.6	95.7	134.3	151.4	157.2
87.5°	20.0	41.4	54.3	61.4	61.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)