

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: P310405

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA08-W2A-U-5000K**

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: P310405  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
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-L82765-RDP-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 5000K 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**

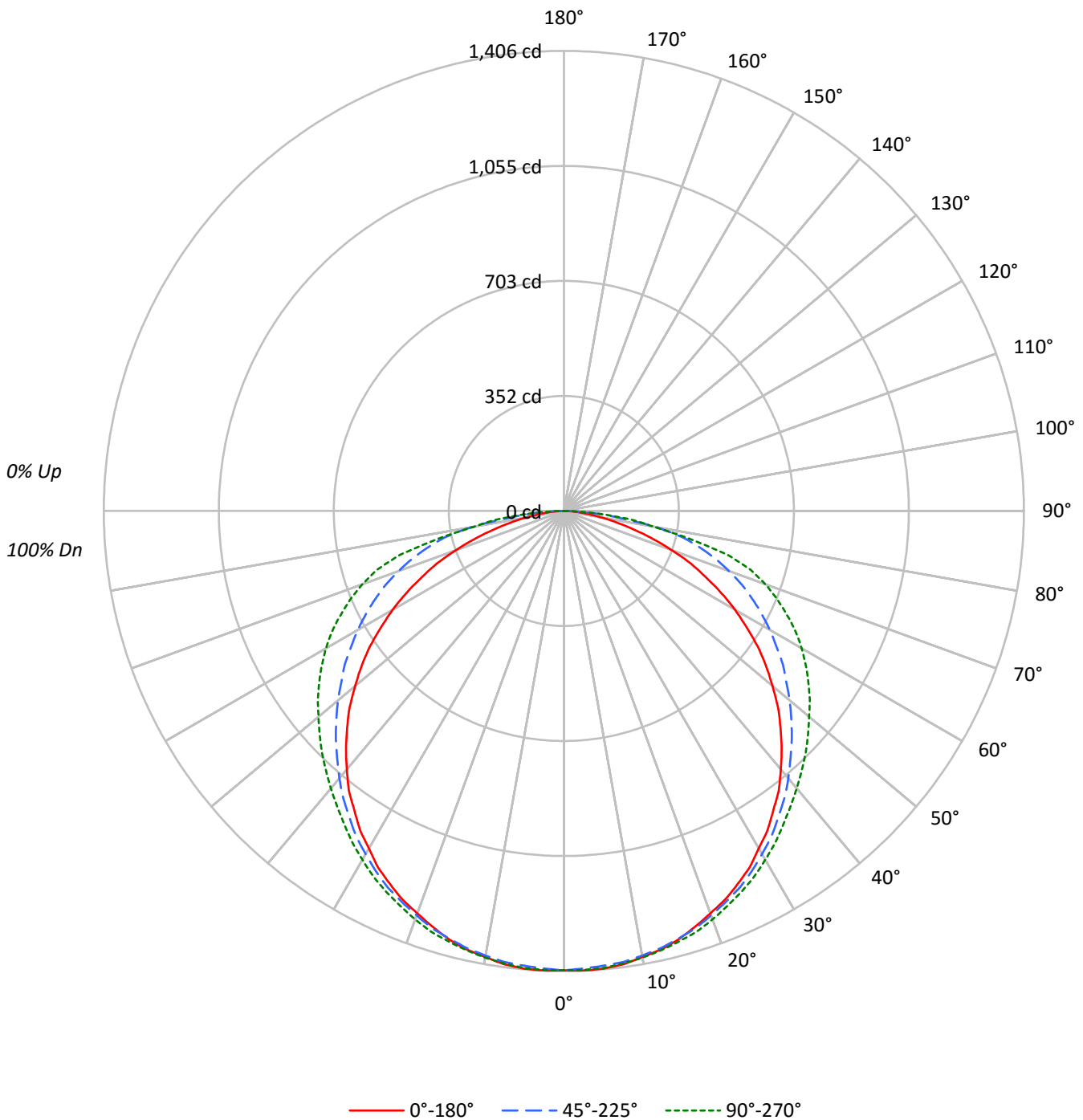
Lumens per Lamp: N/A  
Luminaire Lumens: 4464.0 lumens  
Efficiency: N/A  
Efficacy: 75.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 59.1  
Input Voltage (V): NR  
Input Current (A<sub>in</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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1889	1889	1889
5°	1896	1884	1893
10°	1891	1885	1894
15°	1888	1885	1897
20°	1874	1883	1902
25°	1867	1887	1907
30°	1851	1882	1913
35°	1833	1877	1920
40°	1812	1874	1945
45°	1782	1875	1989
50°	1743	1886	2049
55°	1698	1917	2140
60°	1627	1954	2258
65°	1523	2023	2397
70°	1385	2116	2578
75°	1174	2233	2693
80°	927	2248	2179
85°	684	1709	1914



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.2	3.0
10°-20°	383.2	8.6
20°-30°	586.1	13.1
30°-40°	716.5	16.0
40°-50°	763.6	17.1
50°-60°	730.1	16.4
60°-70°	618.5	13.9
70°-80°	415.7	9.3
80°-90°	117.3	2.6
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°	1102.5	24.7
0°-40°	1818.9	40.7
0°-60°	3312.6	74.2
0°-90°	4464.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4464.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1404	1404	1404	1404	1404	
5°	1404	1402	1395	1402	1402	133
15°	1355	1355	1353	1364	1362	382
25°	1258	1262	1271	1282	1284	580
35°	1116	1125	1142	1165	1169	699
45°	937	952	985	1027	1045	722
55°	724	751	817	881	912	645
65°	478	527	636	720	753	475
75°	226	308	430	503	518	242
85°	44	91	111	120	124	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1403.8	1403.8	1403.8	1403.8	1403.8
2.5°	1406.0	1406.0	1399.4	1403.8	1403.8
5°	1403.8	1401.6	1394.9	1401.6	1401.6
7.5°	1397.2	1394.9	1390.5	1397.2	1394.9
10°	1383.9	1383.9	1379.4	1386.1	1386.1
12.5°	1372.8	1370.6	1368.4	1377.2	1375.0
15°	1355.1	1355.1	1352.9	1363.9	1361.7
17.5°	1332.9	1335.2	1337.4	1346.2	1348.4
20°	1308.6	1313.0	1315.2	1328.5	1328.5
22.5°	1286.4	1288.7	1293.1	1306.4	1306.4
25°	1257.7	1262.1	1270.9	1282.0	1284.2
27.5°	1228.9	1231.1	1242.2	1257.7	1259.9
30°	1191.2	1197.9	1211.2	1228.9	1231.1
32.5°	1158.0	1164.7	1180.2	1197.9	1202.3
35°	1116.0	1124.8	1142.5	1164.7	1169.1
37.5°	1078.3	1085.0	1107.1	1131.5	1138.1
40°	1031.8	1045.1	1067.2	1096.0	1107.1
42.5°	985.3	998.6	1025.2	1062.8	1076.1
45°	936.6	952.1	985.3	1027.4	1045.1
47.5°	887.9	905.6	943.2	992.0	1011.9
50°	832.5	854.7	901.2	956.5	978.7
52.5°	779.4	806.0	856.9	918.9	947.7
55°	724.0	750.6	817.0	881.3	912.2
57.5°	662.0	697.5	770.5	843.6	876.8
60°	604.5	637.7	726.3	806.0	839.2
62.5°	542.5	586.8	682.0	766.1	799.3
65°	478.3	527.0	635.5	719.6	752.8
67.5°	420.7	473.8	589.0	673.1	706.3
70°	352.1	418.5	538.0	622.2	655.4
72.5°	287.8	360.9	484.9	566.8	597.8
75°	225.8	307.8	429.6	502.6	518.1
77.5°	168.3	254.6	372.0	403.0	391.9
80°	119.6	203.7	290.1	274.6	281.2
82.5°	77.5	155.0	179.3	203.7	210.3
85°	44.3	90.8	110.7	119.6	124.0
87.5°	19.9	33.2	44.3	44.3	42.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)