

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: P310223

Luminaire Tested: **24FCZ2-50-UNV-L82765-RDP-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: P310223  
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: 24FCZ2-50-UNV-L82765-RDP-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 3070.0 lumens  
Efficiency: N/A  
Efficacy: 71.1 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

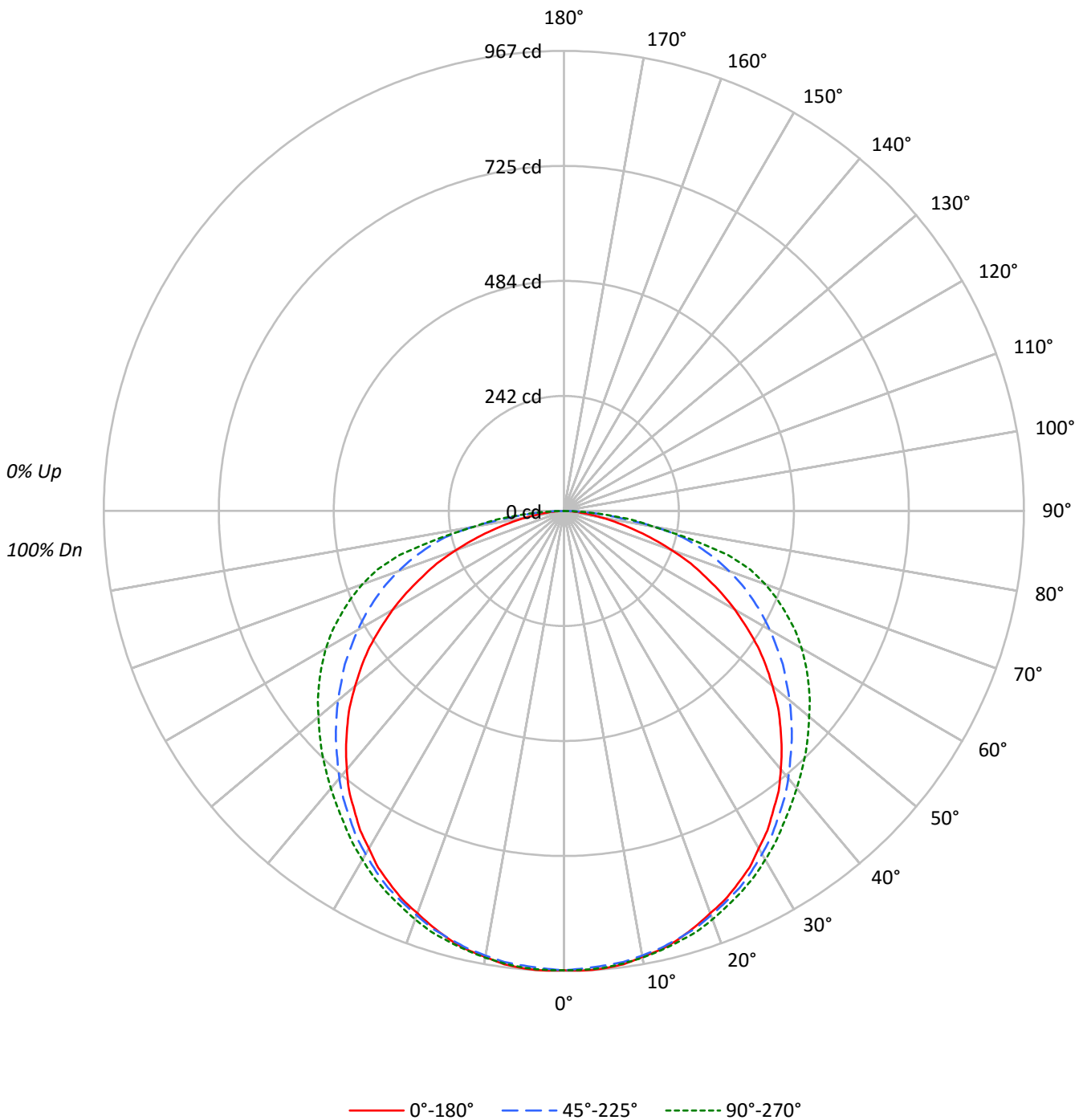
Input Watts (W): 43.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1299	1299	1299
5°	1304	1296	1302
10°	1300	1296	1302
15°	1298	1296	1305
20°	1289	1295	1308
25°	1284	1298	1311
30°	1273	1294	1315
35°	1261	1291	1321
40°	1246	1289	1337
45°	1226	1289	1368
50°	1199	1297	1409
55°	1168	1318	1472
60°	1119	1344	1553
65°	1047	1391	1648
70°	952	1456	1773
75°	807	1536	1852
80°	637	1546	1499
85°	471	1175	1317



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.6	3.0
10°-20°	263.6	8.6
20°-30°	403.0	13.1
30°-40°	492.7	16.0
40°-50°	525.1	17.1
50°-60°	502.1	16.4
60°-70°	425.3	13.9
70°-80°	285.9	9.3
80°-90°	80.6	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°	758.2	24.7
0°-40°	1250.9	40.7
0°-60°	2278.2	74.2
0°-90°	3070.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3070.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	965	964	959	964	964	92
15°	932	932	930	938	936	263
25°	865	868	874	882	883	399
35°	768	774	786	801	804	481
45°	644	655	678	707	719	497
55°	498	516	562	606	627	443
65°	329	362	437	495	518	327
75°	155	212	295	346	356	166
85°	30	62	76	82	85	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	965.4	965.4	965.4	965.4	965.4
2.5°	967.0	967.0	962.4	965.4	965.4
5°	965.4	963.9	959.3	963.9	963.9
7.5°	960.9	959.3	956.3	960.9	959.3
10°	951.7	951.7	948.7	953.2	953.2
12.5°	944.1	942.6	941.1	947.2	945.6
15°	931.9	931.9	930.4	938.0	936.5
17.5°	916.7	918.2	919.7	925.8	927.4
20°	899.9	903.0	904.5	913.7	913.7
22.5°	884.7	886.2	889.3	898.4	898.4
25°	864.9	868.0	874.1	881.7	883.2
27.5°	845.1	846.7	854.3	864.9	866.4
30°	819.2	823.8	832.9	845.1	846.7
32.5°	796.4	801.0	811.6	823.8	826.9
35°	767.5	773.6	785.7	801.0	804.0
37.5°	741.6	746.2	761.4	778.1	782.7
40°	709.6	718.7	734.0	753.8	761.4
42.5°	677.6	686.8	705.0	730.9	740.1
45°	644.1	654.8	677.6	706.6	718.7
47.5°	610.6	622.8	648.7	682.2	695.9
50°	572.6	587.8	619.8	657.8	673.1
52.5°	536.0	554.3	589.3	631.9	651.7
55°	497.9	516.2	561.9	606.1	627.4
57.5°	455.3	479.7	529.9	580.2	603.0
60°	415.7	438.6	499.5	554.3	577.1
62.5°	373.1	403.5	469.0	526.9	549.7
65°	328.9	362.4	437.0	494.9	517.7
67.5°	289.3	325.9	405.1	462.9	485.8
70°	242.1	287.8	370.0	427.9	450.7
72.5°	198.0	248.2	333.5	389.8	411.1
75°	155.3	211.7	295.4	345.7	356.3
77.5°	115.7	175.1	255.8	277.1	269.5
80°	82.2	140.1	199.5	188.8	193.4
82.5°	53.3	106.6	123.3	140.1	144.7
85°	30.5	62.4	76.1	82.2	85.3
87.5°	13.7	22.8	30.5	30.5	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)