

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: P310134

Luminaire Tested: **24FCZ2-45-UNV-L82765-RDP-CA08-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: P310134  
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: 24FCZ2-45-UNV-L82765-RDP-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 2831.0 lumens  
Efficiency: N/A  
Efficacy: 73.9 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

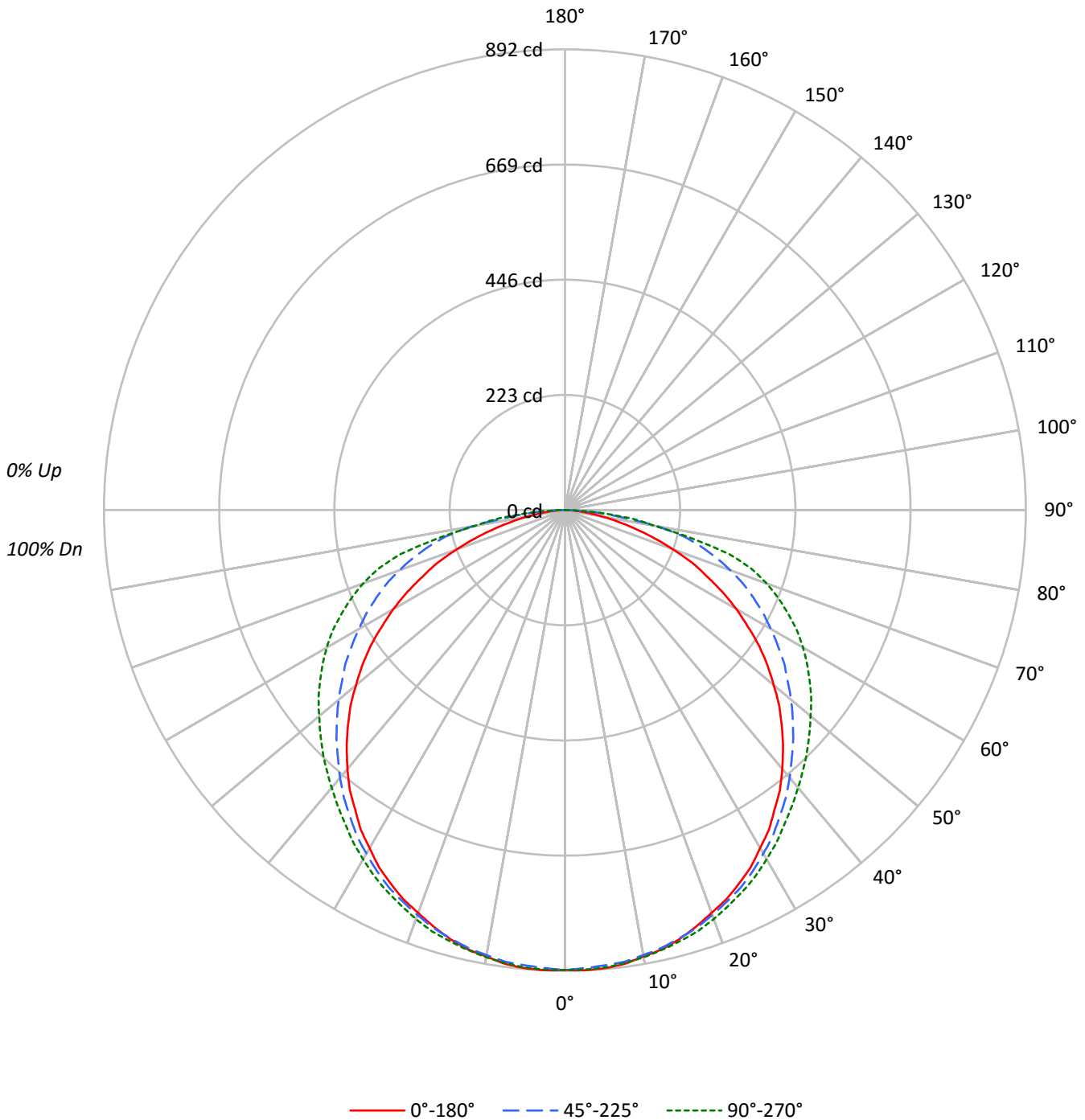
Input Watts (W): 38.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1198	1198	1198
5°	1202	1195	1201
10°	1199	1195	1201
15°	1197	1195	1203
20°	1188	1194	1206
25°	1184	1197	1209
30°	1174	1193	1213
35°	1162	1190	1218
40°	1149	1189	1233
45°	1130	1189	1261
50°	1105	1196	1299
55°	1077	1216	1357
60°	1031	1239	1432
65°	966	1283	1520
70°	878	1342	1635
75°	744	1416	1708
80°	587	1426	1382
85°	434	1084	1213



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.5	3.0
10°-20°	243.0	8.6
20°-30°	371.7	13.1
30°-40°	454.4	16.0
40°-50°	484.3	17.1
50°-60°	463.0	16.4
60°-70°	392.2	13.9
70°-80°	263.6	9.3
80°-90°	74.4	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°	699.2	24.7
0°-40°	1153.5	40.7
0°-60°	2100.8	74.2
0°-90°	2831.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2831.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	889	885	889	889	85
15°	859	859	858	865	864	242
25°	798	800	806	813	814	368
35°	708	713	725	739	741	443
45°	594	604	625	652	663	458
55°	459	476	518	559	578	409
65°	303	334	403	456	477	301
75°	143	195	272	319	329	153
85°	28	58	70	76	79	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	890.3	890.3	890.3	890.3	890.3
2.5°	891.7	891.7	887.5	890.3	890.3
5°	890.3	888.9	884.7	888.9	888.9
7.5°	886.1	884.7	881.8	886.1	884.7
10°	877.6	877.6	874.8	879.0	879.0
12.5°	870.6	869.2	867.8	873.4	872.0
15°	859.4	859.4	858.0	865.0	863.6
17.5°	845.3	846.7	848.1	853.8	855.2
20°	829.9	832.7	834.1	842.5	842.5
22.5°	815.8	817.2	820.1	828.5	828.5
25°	797.6	800.4	806.0	813.0	814.4
27.5°	779.3	780.7	787.8	797.6	799.0
30°	755.5	759.7	768.1	779.3	780.7
32.5°	734.4	738.6	748.4	759.7	762.5
35°	707.7	713.3	724.6	738.6	741.4
37.5°	683.8	688.1	702.1	717.6	721.8
40°	654.4	662.8	676.8	695.1	702.1
42.5°	624.9	633.3	650.1	674.0	682.4
45°	594.0	603.8	624.9	651.6	662.8
47.5°	563.1	574.3	598.2	629.1	641.7
50°	528.0	542.0	571.5	606.6	620.7
52.5°	494.3	511.1	543.4	582.7	601.0
55°	459.2	476.0	518.2	558.9	578.5
57.5°	419.9	442.3	488.7	535.0	556.1
60°	383.3	404.4	460.6	511.1	532.2
62.5°	344.0	372.1	432.5	485.9	506.9
65°	303.3	334.2	403.0	456.4	477.4
67.5°	266.8	300.5	373.5	426.9	447.9
70°	223.3	265.4	341.2	394.6	415.6
72.5°	182.5	228.9	307.5	359.5	379.1
75°	143.2	195.2	272.4	318.8	328.6
77.5°	106.7	161.5	235.9	255.6	248.5
80°	75.8	129.2	184.0	174.1	178.3
82.5°	49.1	98.3	113.7	129.2	133.4
85°	28.1	57.6	70.2	75.8	78.6
87.5°	12.6	21.1	28.1	28.1	26.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)