

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: P311210

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CA08-W2A-U-2700K**

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: P311210  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-30-UNV-L82765-S-CA08-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 2700K 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

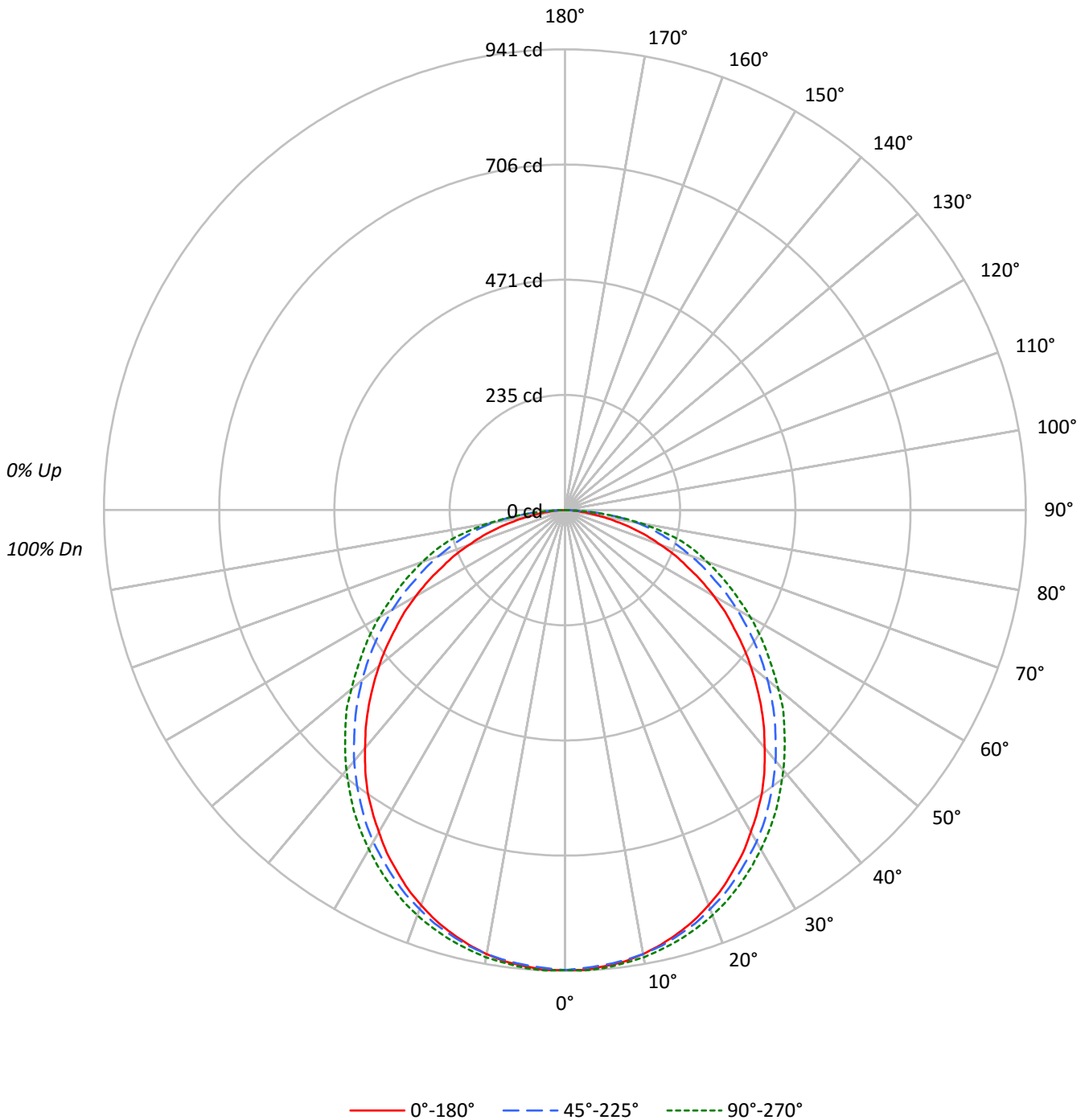
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2674.0 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1264	1264	1264
5°	1263	1260	1268
10°	1258	1258	1267
15°	1246	1252	1265
20°	1230	1242	1261
25°	1207	1229	1253
30°	1180	1215	1243
35°	1154	1196	1233
40°	1114	1176	1219
45°	1078	1152	1206
50°	1037	1131	1191
55°	990	1110	1179
60°	944	1093	1177
65°	884	1074	1184
70°	819	1079	1216
75°	733	1099	1285
80°	592	1165	1257
85°	446	1024	997



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.9	3.3
10°-20°	254.1	9.5
20°-30°	382.0	14.3
30°-40°	455.0	17.0
40°-50°	465.7	17.4
50°-60°	419.2	15.7
60°-70°	329.2	12.3
70°-80°	213.7	8.0
80°-90°	66.1	2.5
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°	725.0	27.1
0°-40°	1180.0	44.1
0°-60°	2065.0	77.2
0°-90°	2674.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2674.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	939	939	939	939	939	
5°	935	937	933	938	938	89
15°	894	897	899	906	908	252
25°	813	820	828	842	844	374
35°	702	711	728	746	751	438
45°	566	580	606	628	634	437
55°	422	441	473	498	503	378
65°	278	299	337	365	372	276
75°	141	168	212	240	247	149
85°	29	54	66	65	65	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	939.4	939.4	939.4	939.4	939.4
2.5°	940.2	940.2	936.0	940.2	941.1
5°	935.1	936.8	932.6	937.7	938.5
7.5°	930.1	930.1	927.5	932.6	933.4
10°	920.7	921.6	920.7	926.7	927.5
12.5°	908.8	910.5	911.4	917.3	918.2
15°	894.4	896.9	898.6	906.3	908.0
17.5°	878.2	880.8	885.0	893.5	895.2
20°	858.7	862.1	867.2	878.2	880.8
22.5°	837.5	840.9	849.4	859.6	863.8
25°	812.8	819.6	828.1	841.7	844.3
27.5°	788.2	794.2	805.2	819.6	823.0
30°	759.3	768.7	782.3	796.7	800.1
32.5°	731.3	740.6	756.8	772.1	776.3
35°	702.4	710.9	727.9	745.7	750.8
37.5°	669.3	680.3	699.0	716.9	722.0
40°	634.5	648.1	669.3	688.0	693.9
42.5°	601.3	615.8	637.0	657.4	664.2
45°	566.5	580.1	605.6	628.5	633.6
47.5°	530.9	546.1	573.3	596.3	604.7
50°	495.2	511.3	540.2	564.0	569.1
52.5°	459.5	476.5	507.1	532.5	535.1
55°	422.1	440.8	473.1	497.7	502.8
57.5°	388.2	404.3	439.1	464.6	470.5
60°	350.8	368.6	406.0	429.8	437.4
62.5°	315.1	333.8	372.9	396.7	403.4
65°	277.7	299.0	337.2	365.2	372.0
67.5°	245.5	265.9	306.6	333.8	340.6
70°	208.1	231.0	274.3	302.4	309.2
72.5°	175.8	199.6	242.9	270.1	280.3
75°	141.0	168.2	211.5	240.4	247.2
77.5°	107.0	138.4	182.6	204.7	204.7
80°	76.4	109.6	150.3	160.5	162.2
82.5°	50.1	82.4	111.3	110.4	110.4
85°	28.9	53.5	66.3	64.6	64.6
87.5°	11.0	22.1	23.8	23.8	22.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)