

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: P311309

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CA125-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: P311309  
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: 24FCZ2-35-UNV-L82765-S-CA125-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 3124.0 lumens  
Efficiency: N/A  
Efficacy: 111.6 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

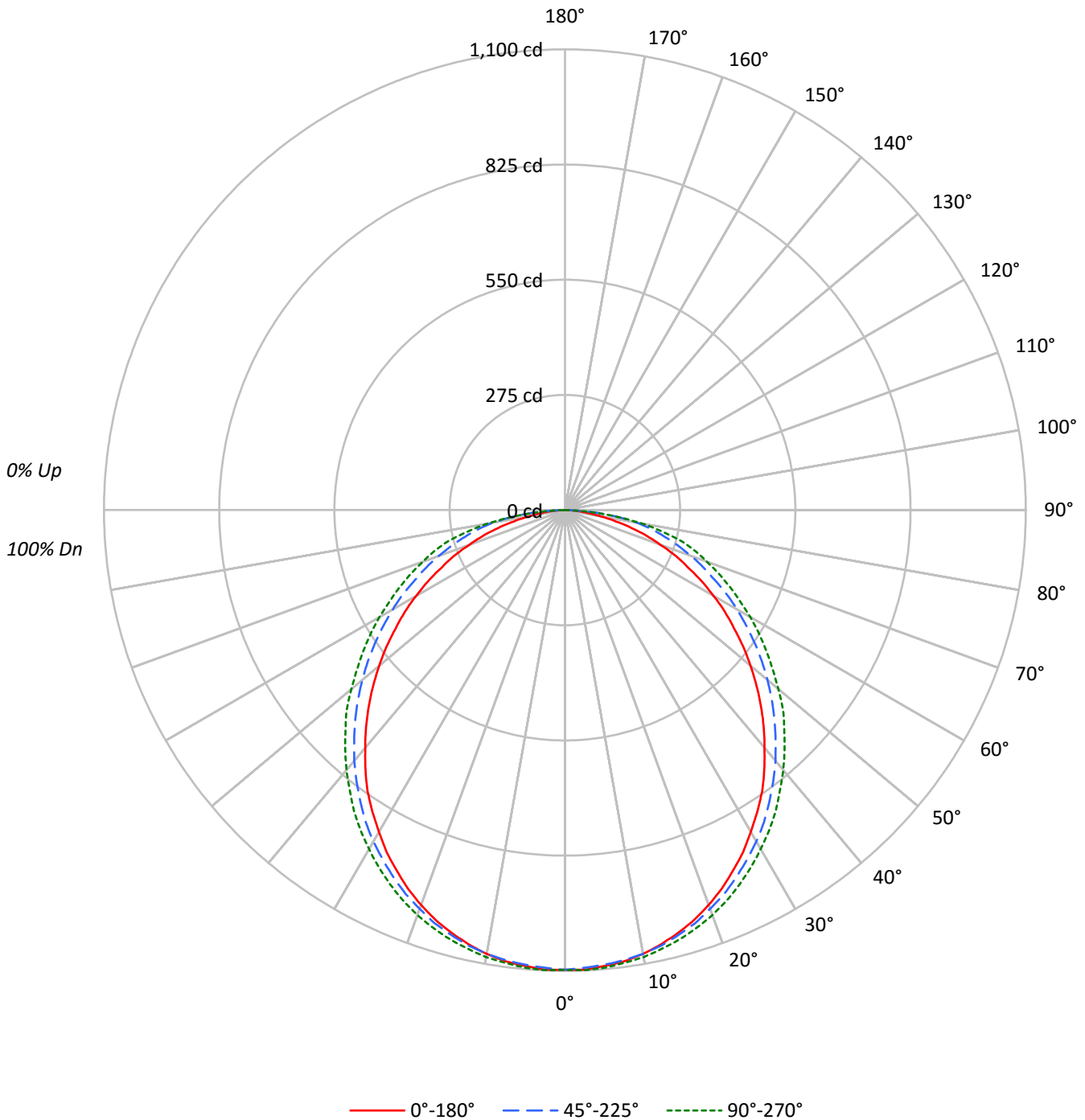
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1477	1477	1477
5°	1476	1472	1481
10°	1470	1470	1480
15°	1455	1462	1478
20°	1436	1451	1473
25°	1410	1436	1464
30°	1378	1420	1452
35°	1348	1397	1441
40°	1302	1373	1424
45°	1259	1346	1409
50°	1211	1321	1392
55°	1157	1297	1378
60°	1103	1276	1375
65°	1033	1254	1384
70°	956	1261	1421
75°	856	1285	1501
80°	692	1361	1468
85°	520	1195	1164



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.9	3.3
10°-20°	296.9	9.5
20°-30°	446.3	14.3
30°-40°	531.6	17.0
40°-50°	544.0	17.4
50°-60°	489.8	15.7
60°-70°	384.7	12.3
70°-80°	249.6	8.0
80°-90°	77.2	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°	847.1	27.1
0°-40°	1378.6	44.1
0°-60°	2412.5	77.2
0°-90°	3124.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3124.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1092	1094	1090	1096	1096	104
15°	1045	1048	1050	1059	1061	295
25°	950	958	968	983	986	437
35°	821	831	850	871	877	512
45°	662	678	708	734	740	510
55°	493	515	553	582	587	442
65°	324	349	394	427	435	323
75°	165	196	247	281	289	174
85°	34	62	77	75	75	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1097.5	1097.5	1097.5	1097.5	1097.5
2.5°	1098.5	1098.5	1093.5	1098.5	1099.5
5°	1092.5	1094.5	1089.5	1095.5	1096.5
7.5°	1086.6	1086.6	1083.6	1089.5	1090.5
10°	1075.7	1076.6	1075.7	1082.6	1083.6
12.5°	1061.8	1063.7	1064.7	1071.7	1072.7
15°	1044.9	1047.9	1049.9	1058.8	1060.8
17.5°	1026.0	1029.0	1034.0	1043.9	1045.9
20°	1003.2	1007.2	1013.1	1026.0	1029.0
22.5°	978.4	982.4	992.3	1004.2	1009.2
25°	949.6	957.6	967.5	983.4	986.3
27.5°	920.9	927.8	940.7	957.6	961.5
30°	887.1	898.0	913.9	930.8	934.7
32.5°	854.4	865.3	884.1	902.0	907.0
35°	820.6	830.6	850.4	871.2	877.2
37.5°	781.9	794.8	816.7	837.5	843.5
40°	741.2	757.1	781.9	803.8	810.7
42.5°	702.5	719.4	744.2	768.0	776.0
45°	661.9	677.7	707.5	734.3	740.3
47.5°	620.2	638.0	669.8	696.6	706.5
50°	578.5	597.4	631.1	658.9	664.8
52.5°	536.8	556.7	592.4	622.2	625.1
55°	493.2	515.0	552.7	581.5	587.4
57.5°	453.5	472.3	513.0	542.8	549.7
60°	409.8	430.7	474.3	502.1	511.0
62.5°	368.1	390.0	435.6	463.4	471.3
65°	324.5	349.3	393.9	426.7	434.6
67.5°	286.8	310.6	358.2	390.0	397.9
70°	243.1	269.9	320.5	353.3	361.2
72.5°	205.4	233.2	283.8	315.6	327.5
75°	164.7	196.5	247.1	280.8	288.8
77.5°	125.0	161.7	213.3	239.1	239.1
80°	89.3	128.0	175.6	187.5	189.5
82.5°	58.5	96.3	130.0	129.0	129.0
85°	33.7	62.5	77.4	75.4	75.4
87.5°	12.9	25.8	27.8	27.8	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)