

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: P310069

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3500K**

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: P310069
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: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 3500K 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: 2275.0 lumens
Efficiency: N/A
Efficacy: 69.1 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

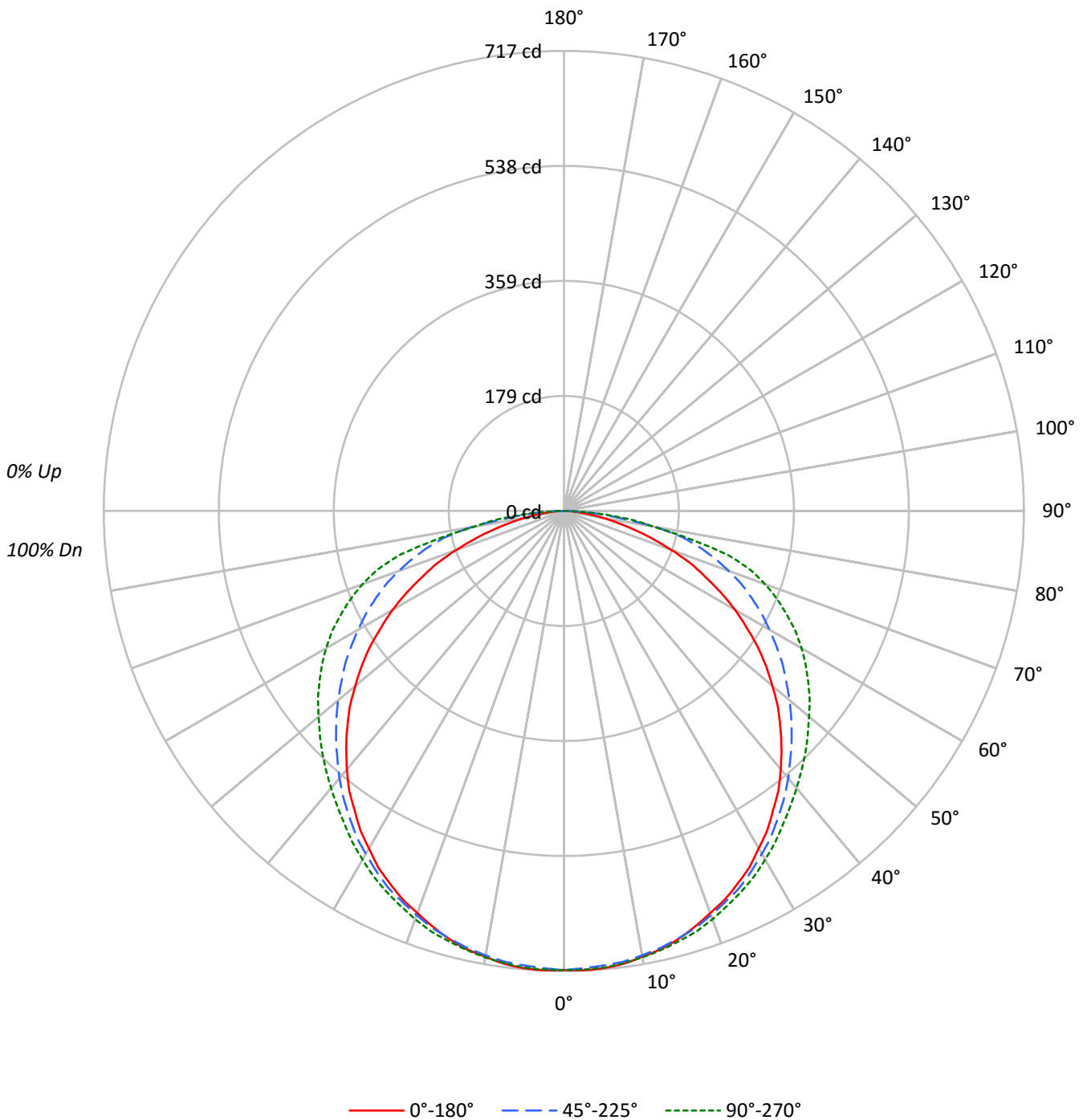
Input Watts (W): 32.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	963	963	963
5°	966	960	965
10°	964	960	965
15°	962	960	967
20°	955	960	969
25°	951	962	972
30°	943	959	975
35°	934	956	979
40°	924	955	991
45°	908	955	1013
50°	888	961	1044
55°	866	977	1091
60°	829	996	1151
65°	776	1031	1222
70°	706	1079	1314
75°	598	1138	1373
80°	472	1145	1110
85°	349	871	976



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.9	3.0
10°-20°	195.3	8.6
20°-30°	298.7	13.1
30°-40°	365.1	16.0
40°-50°	389.1	17.1
50°-60°	372.1	16.4
60°-70°	315.2	13.9
70°-80°	211.8	9.3
80°-90°	59.8	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°	561.9	24.7
0°-40°	927.0	40.7
0°-60°	1688.2	74.2
0°-90°	2275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	715	715	715	715	715	
5°	715	714	711	714	714	68
15°	691	691	690	695	694	195
25°	641	643	648	653	654	295
35°	569	573	582	594	596	356
45°	477	485	502	524	533	368
55°	369	382	416	449	465	329
65°	244	269	324	367	384	242
75°	115	157	219	256	264	123
85°	23	46	56	61	63	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	715.4	715.4	715.4	715.4	715.4
2.5°	716.6	716.6	713.2	715.4	715.4
5°	715.4	714.3	710.9	714.3	714.3
7.5°	712.0	710.9	708.7	712.0	710.9
10°	705.3	705.3	703.0	706.4	706.4
12.5°	699.6	698.5	697.4	701.9	700.8
15°	690.6	690.6	689.5	695.1	694.0
17.5°	679.3	680.4	681.6	686.1	687.2
20°	666.9	669.2	670.3	677.1	677.1
22.5°	655.6	656.7	659.0	665.8	665.8
25°	640.9	643.2	647.7	653.4	654.5
27.5°	626.3	627.4	633.0	640.9	642.1
30°	607.1	610.5	617.2	626.3	627.4
32.5°	590.2	593.6	601.5	610.5	612.7
35°	568.7	573.2	582.3	593.6	595.8
37.5°	549.5	552.9	564.2	576.6	580.0
40°	525.8	532.6	543.9	558.6	564.2
42.5°	502.1	508.9	522.5	541.6	548.4
45°	477.3	485.2	502.1	523.6	532.6
47.5°	452.5	461.5	480.7	505.5	515.7
50°	424.3	435.6	459.3	487.5	498.8
52.5°	397.2	410.7	436.7	468.3	483.0
55°	369.0	382.5	416.4	449.1	464.9
57.5°	337.4	355.5	392.7	429.9	446.9
60°	308.1	325.0	370.1	410.7	427.7
62.5°	276.5	299.0	347.6	390.4	407.4
65°	243.7	268.6	323.9	366.7	383.7
67.5°	214.4	241.5	300.2	343.0	360.0
70°	179.4	213.3	274.2	317.1	334.0
72.5°	146.7	183.9	247.1	288.9	304.7
75°	115.1	156.9	218.9	256.2	264.1
77.5°	85.8	129.8	189.6	205.4	199.7
80°	60.9	103.8	147.8	139.9	143.3
82.5°	39.5	79.0	91.4	103.8	107.2
85°	22.6	46.3	56.4	60.9	63.2
87.5°	10.2	16.9	22.6	22.6	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)