

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: P310068

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3000K**

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: P310068
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 2199.0 lumens
Efficiency: N/A
Efficacy: 67.7 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

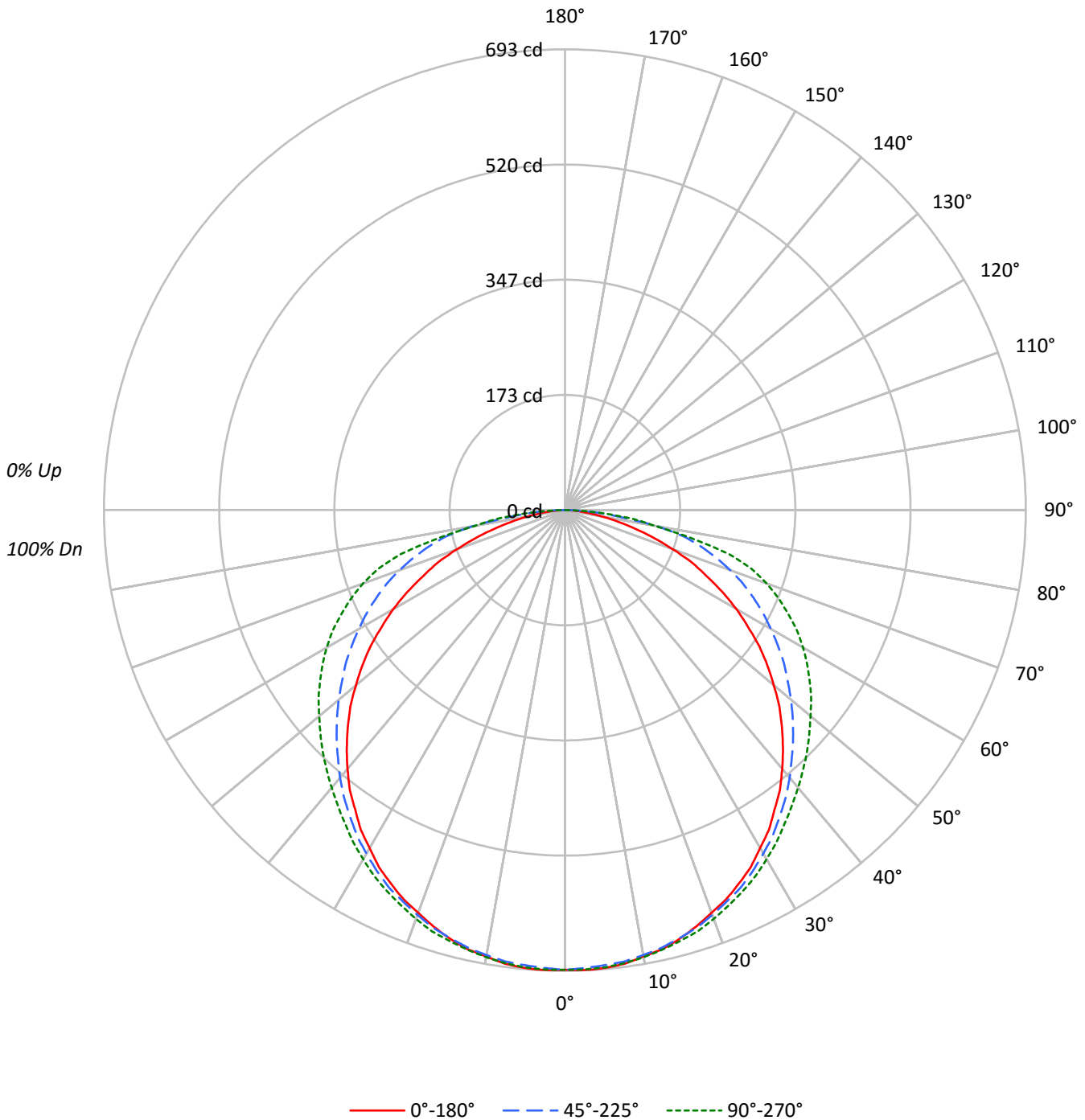
Input Watts (W): 32.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310068

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P310068

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3000K

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	68	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°	930	930	930
5°	934	928	932
10°	931	928	933
15°	930	928	934
20°	923	928	937
25°	920	929	939
30°	912	927	942
35°	903	924	946
40°	893	923	958
45°	878	924	980
50°	858	929	1009
55°	837	944	1054
60°	801	963	1112
65°	750	996	1181
70°	682	1042	1270
75°	579	1100	1327
80°	456	1107	1073
85°	337	841	943



TEST NUMBER: P310068

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.6	3.0
10°-20°	188.8	8.6
20°-30°	288.7	13.1
30°-40°	352.9	16.0
40°-50°	376.2	17.1
50°-60°	359.7	16.4
60°-70°	304.7	13.9
70°-80°	204.8	9.3
80°-90°	57.8	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°	543.1	24.7
0°-40°	896.0	40.7
0°-60°	1631.8	74.2
0°-90°	2199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	692	692	692	692	692	
5°	692	690	687	690	690	66
15°	668	668	666	672	671	188
25°	620	622	626	632	633	286
35°	550	554	563	574	576	344
45°	461	469	485	506	515	356
55°	357	370	402	434	449	318
65°	236	260	313	354	371	234
75°	111	152	212	248	255	119
85°	22	45	54	59	61	27
90°	0	0	0	0	0	



TEST NUMBER: P310068

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	691.5	691.5	691.5	691.5	691.5
2.5°	692.6	692.6	689.3	691.5	691.5
5°	691.5	690.4	687.2	690.4	690.4
7.5°	688.3	687.2	685.0	688.3	687.2
10°	681.7	681.7	679.5	682.8	682.8
12.5°	676.3	675.2	674.1	678.4	677.3
15°	667.5	667.5	666.4	671.9	670.8
17.5°	656.6	657.7	658.8	663.2	664.3
20°	644.6	646.8	647.9	654.4	654.4
22.5°	633.7	634.8	637.0	643.5	643.5
25°	619.5	621.7	626.1	631.5	632.6
27.5°	605.4	606.4	611.9	619.5	620.6
30°	586.8	590.1	596.6	605.4	606.4
32.5°	570.5	573.7	581.4	590.1	592.3
35°	549.7	554.1	562.8	573.7	575.9
37.5°	531.2	534.5	545.4	557.4	560.6
40°	508.3	514.8	525.7	539.9	545.4
42.5°	485.4	491.9	505.0	523.6	530.1
45°	461.4	469.0	485.4	506.1	514.8
47.5°	437.4	446.1	464.7	488.6	498.5
50°	410.1	421.0	443.9	471.2	482.1
52.5°	383.9	397.0	422.1	452.7	466.8
55°	356.7	369.8	402.5	434.1	449.4
57.5°	326.1	343.6	379.6	415.6	431.9
60°	297.8	314.1	357.8	397.0	413.4
62.5°	267.2	289.0	335.9	377.4	393.8
65°	235.6	259.6	313.0	354.5	370.8
67.5°	207.2	233.4	290.1	331.6	347.9
70°	173.4	206.1	265.0	306.5	322.9
72.5°	141.8	177.8	238.9	279.2	294.5
75°	111.3	151.6	211.6	247.6	255.2
77.5°	82.9	125.4	183.2	198.5	193.1
80°	58.9	100.3	142.9	135.3	138.5
82.5°	38.2	76.4	88.3	100.3	103.6
85°	21.8	44.7	54.5	58.9	61.1
87.5°	9.8	16.4	21.8	21.8	20.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)