

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: P313556

Luminaire Tested: **24FCZ2-40-UNV-L83050-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: P313556
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-L83050-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: 2329.0 lumens
Efficiency: N/A
Efficacy: 71.2 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

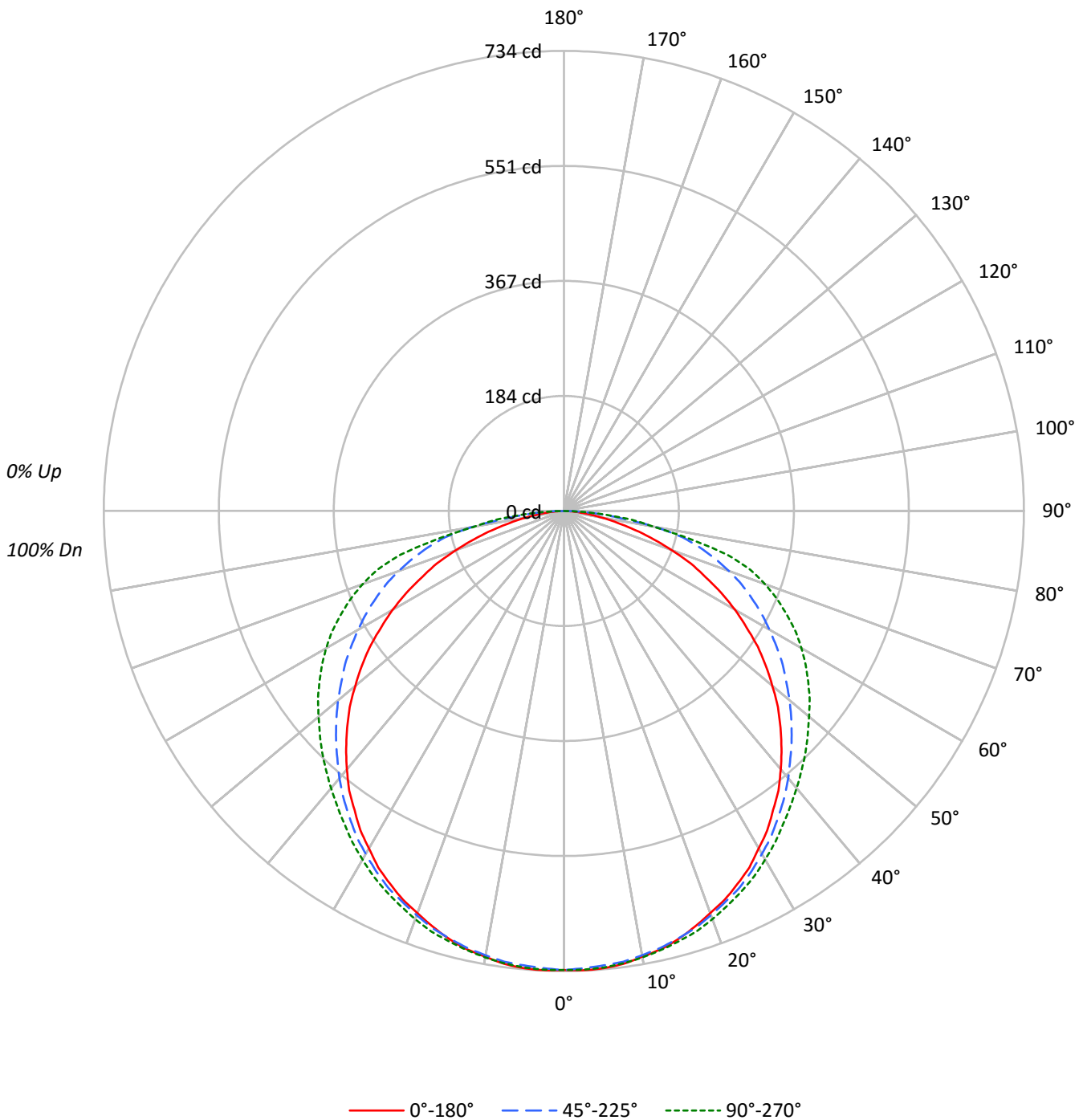
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	985	985	985
5°	989	983	988
10°	986	983	988
15°	985	983	990
20°	978	983	992
25°	974	984	995
30°	966	982	998
35°	956	979	1002
40°	945	978	1015
45°	930	978	1038
50°	909	984	1069
55°	886	1000	1116
60°	849	1020	1178
65°	794	1055	1251
70°	723	1104	1345
75°	612	1165	1405
80°	483	1172	1137
85°	357	892	999



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.5	3.0
10°-20°	199.9	8.6
20°-30°	305.8	13.1
30°-40°	373.8	16.0
40°-50°	398.4	17.1
50°-60°	380.9	16.4
60°-70°	322.7	13.9
70°-80°	216.9	9.3
80°-90°	61.2	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°	575.2	24.7
0°-40°	949.0	40.7
0°-60°	1728.3	74.2
0°-90°	2329.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2329.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	732	731	728	731	731	70
15°	707	707	706	712	710	199
25°	656	658	663	669	670	302
35°	582	587	596	608	610	365
45°	489	497	514	536	545	377
55°	378	392	426	460	476	336
65°	250	275	332	375	393	248
75°	118	161	224	262	270	126
85°	23	47	58	62	65	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	732.4	732.4	732.4	732.4	732.4
2.5°	733.6	733.6	730.1	732.4	732.4
5°	732.4	731.2	727.8	731.2	731.2
7.5°	728.9	727.8	725.5	728.9	727.8
10°	722.0	722.0	719.7	723.2	723.2
12.5°	716.2	715.1	713.9	718.5	717.4
15°	707.0	707.0	705.8	711.6	710.5
17.5°	695.4	696.6	697.7	702.4	703.5
20°	682.7	685.0	686.2	693.1	693.1
22.5°	671.2	672.3	674.6	681.6	681.6
25°	656.2	658.5	663.1	668.9	670.0
27.5°	641.1	642.3	648.1	656.2	657.3
30°	621.5	625.0	631.9	641.1	642.3
32.5°	604.2	607.6	615.7	625.0	627.3
35°	582.2	586.8	596.1	607.6	610.0
37.5°	562.6	566.1	577.6	590.3	593.8
40°	538.3	545.3	556.8	571.8	577.6
42.5°	514.1	521.0	534.9	554.5	561.4
45°	488.7	496.7	514.1	536.0	545.3
47.5°	463.2	472.5	492.1	517.5	527.9
50°	434.4	445.9	470.2	499.1	510.6
52.5°	406.6	420.5	447.1	479.4	494.4
55°	377.8	391.6	426.3	459.8	475.9
57.5°	345.4	363.9	402.0	440.1	457.5
60°	315.4	332.7	378.9	420.5	437.8
62.5°	283.0	306.1	355.8	399.7	417.0
65°	249.5	274.9	331.5	375.4	392.8
67.5°	219.5	247.2	307.3	351.2	368.5
70°	183.7	218.3	280.7	324.6	341.9
72.5°	150.2	188.3	253.0	295.7	311.9
75°	117.8	160.6	224.1	262.2	270.3
77.5°	87.8	132.8	194.1	210.2	204.5
80°	62.4	106.3	151.3	143.2	146.7
82.5°	40.4	80.9	93.6	106.3	109.7
85°	23.1	47.4	57.8	62.4	64.7
87.5°	10.4	17.3	23.1	23.1	21.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)