

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: P312981

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-S-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: P312981
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-34HE-UNV-L83050-S-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 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: 3054.0 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

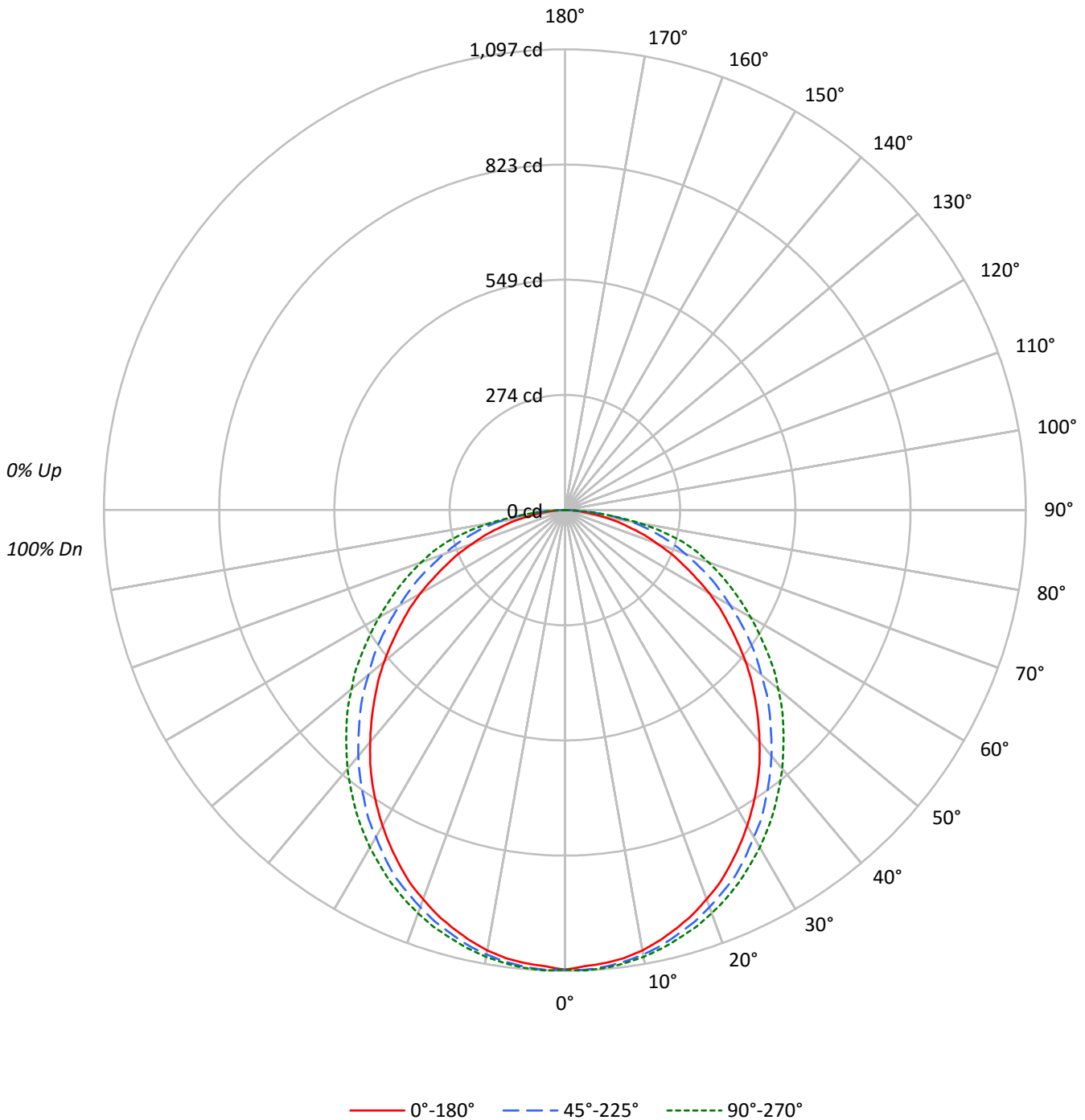
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2945	2945	2945
5°	2925	2948	2956
10°	2908	2936	2951
15°	2870	2910	2937
20°	2824	2881	2926
25°	2767	2852	2907
30°	2696	2794	2882
35°	2621	2743	2855
40°	2533	2688	2828
45°	2440	2625	2798
50°	2350	2553	2774
55°	2240	2507	2754
60°	2140	2447	2745
65°	1996	2432	2776
70°	1839	2411	2859
75°	1659	2444	3008
80°	1435	2517	2827
85°	1189	2112	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	3.4
10°-20°	294.5	9.6
20°-30°	440.7	14.4
30°-40°	521.9	17.1
40°-50°	531.8	17.4
50°-60°	476.7	15.6
60°-70°	373.2	12.2
70°-80°	240.6	7.9
80°-90°	71.1	2.3
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°	838.7	27.5
0°-40°	1360.5	44.5
0°-60°	2369.0	77.6
0°-90°	3054.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3054.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1094	1094	1094	1094	1094	
5°	1083	1086	1092	1093	1094	103
15°	1030	1036	1044	1053	1054	290
25°	932	940	960	973	979	429
35°	798	808	835	861	869	499
45°	641	656	690	725	735	495
55°	477	493	534	571	587	428
65°	314	332	382	419	436	311
75°	160	184	235	275	289	171
85°	38	53	68	68	68	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1094.3	1094.3	1094.3	1094.3	1094.3
2.5°	1087.2	1090.1	1095.8	1097.2	1097.2
5°	1082.9	1085.8	1091.5	1092.9	1094.3
7.5°	1075.8	1077.2	1084.4	1087.2	1088.6
10°	1064.4	1067.3	1074.4	1078.7	1080.1
12.5°	1048.7	1053.0	1061.6	1067.3	1068.7
15°	1030.2	1035.9	1044.5	1053.0	1054.4
17.5°	1010.3	1016.0	1027.4	1037.3	1040.2
20°	986.0	993.2	1006.0	1017.4	1021.7
22.5°	961.8	967.5	983.2	997.4	1001.7
25°	931.9	940.5	960.4	973.2	978.9
27.5°	900.6	910.5	930.5	947.6	953.3
30°	867.8	877.8	899.1	920.5	927.6
32.5°	833.6	845.0	870.6	892.0	899.1
35°	798.0	807.9	835.0	860.7	869.2
37.5°	760.9	769.5	800.8	827.9	836.4
40°	721.0	732.4	765.2	796.5	805.1
42.5°	681.1	693.9	726.7	760.9	769.5
45°	641.2	655.5	689.7	725.3	735.3
47.5°	602.7	614.1	652.6	686.8	701.1
50°	561.4	572.8	609.9	648.3	662.6
52.5°	518.7	534.3	574.2	611.3	628.4
55°	477.4	493.0	534.3	571.4	587.1
57.5°	438.9	451.7	494.4	532.9	548.6
60°	397.6	409.0	454.6	495.9	510.1
62.5°	353.4	370.5	417.5	456.0	473.1
65°	313.5	332.0	381.9	418.9	436.0
67.5°	276.4	293.5	342.0	381.9	400.4
70°	233.7	256.5	306.4	346.3	363.4
72.5°	199.5	219.4	270.7	310.6	329.2
75°	159.6	183.8	235.1	275.0	289.3
77.5°	126.8	151.0	199.5	230.8	238.0
80°	92.6	116.8	162.4	178.1	182.4
82.5°	62.7	85.5	116.8	121.1	122.5
85°	38.5	52.7	68.4	68.4	68.4
87.5°	18.5	21.4	24.2	22.8	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)