

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: P312832

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-CP187-W2A-U-4000K**

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: P312832
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 3041.0 lumens
Efficiency: N/A
Efficacy: 107.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

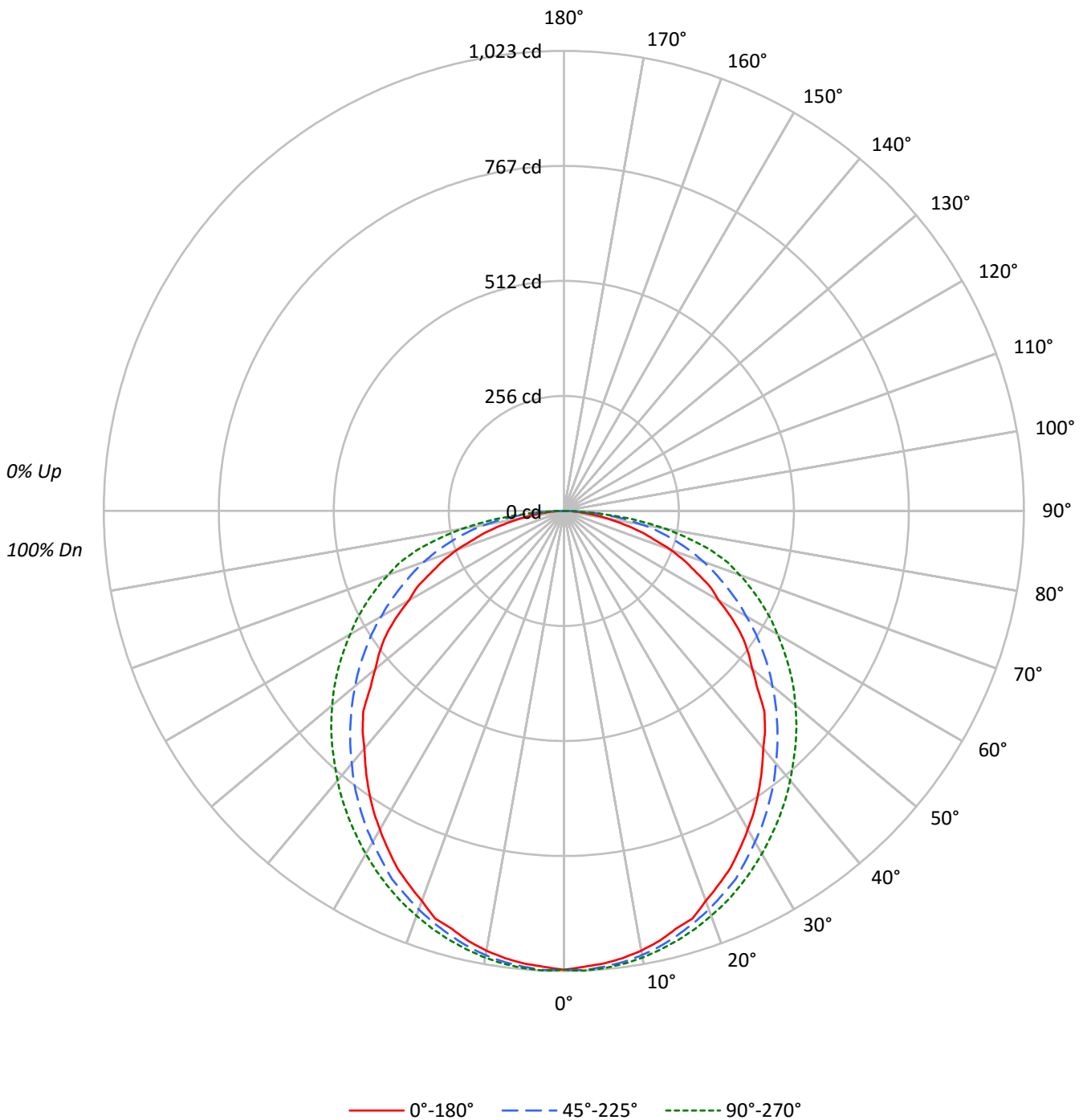
Input Watts (W): 28.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2746	2746	2746
5°	2729	2748	2756
10°	2712	2740	2756
15°	2680	2721	2749
20°	2643	2701	2743
25°	2602	2684	2740
30°	2542	2641	2736
35°	2486	2611	2740
40°	2423	2577	2751
45°	2398	2554	2775
50°	2291	2535	2815
55°	2267	2526	2875
60°	2138	2523	2953
65°	2076	2539	3086
70°	1993	2600	3275
75°	1816	2678	3526
80°	1556	2774	3564
85°	1260	2652	3057



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.5	3.2
10°-20°	275.4	9.1
20°-30°	414.5	13.6
30°-40°	497.5	16.4
40°-50°	520.0	17.1
50°-60°	484.6	15.9
60°-70°	397.4	13.1
70°-80°	267.8	8.8
80°-90°	87.2	2.9
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°	786.5	25.9
0°-40°	1284.0	42.2
0°-60°	2288.5	75.3
0°-90°	3041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1020	1020	1020	1020	1020	
5°	1010	1013	1017	1019	1020	96
15°	962	968	977	985	987	272
25°	876	882	904	917	923	403
35°	757	767	795	822	834	473
45°	630	635	671	712	729	481
55°	483	492	538	590	613	428
65°	326	341	399	457	485	324
75°	175	194	258	316	339	184
85°	41	58	86	100	99	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1020.3	1020.3	1020.3	1020.3	1020.3
2.5°	1014.5	1017.4	1021.7	1023.2	1023.2
5°	1010.1	1013.0	1017.4	1018.8	1020.3
7.5°	1002.8	1005.7	1011.5	1014.5	1015.9
10°	992.6	995.5	1002.8	1007.2	1008.6
12.5°	979.5	982.4	991.2	997.0	998.4
15°	962.1	967.9	976.6	985.4	986.8
17.5°	950.4	949.0	960.6	970.8	973.7
20°	922.8	930.0	943.1	954.8	957.7
22.5°	899.5	905.3	922.8	935.9	941.7
25°	876.2	882.0	903.8	916.9	922.8
27.5°	847.1	855.8	876.2	895.1	902.4
30°	818.0	826.7	850.0	871.8	880.6
32.5°	788.9	799.1	823.8	847.1	857.3
35°	756.8	767.0	794.7	822.3	834.0
37.5°	723.4	736.5	765.6	796.1	809.2
40°	689.9	703.0	733.6	768.5	783.0
42.5°	662.2	668.1	703.0	740.8	755.4
45°	630.2	634.6	671.0	711.7	729.2
47.5°	583.6	599.7	638.9	684.1	701.5
50°	547.3	564.7	605.5	653.5	672.4
52.5°	516.7	528.3	573.5	621.5	643.3
55°	483.2	491.9	538.5	589.5	612.8
57.5°	442.5	458.5	505.0	557.4	580.7
60°	397.3	417.7	468.7	525.4	548.7
62.5°	368.2	379.9	435.2	491.9	518.1
65°	326.0	340.6	398.8	457.0	484.7
67.5°	291.1	305.6	365.3	423.5	451.2
70°	253.3	267.8	330.4	388.6	416.3
72.5°	209.6	230.0	295.5	353.7	382.8
75°	174.7	193.6	257.6	315.8	339.1
77.5°	135.4	160.1	219.8	267.8	285.3
80°	100.4	125.2	179.0	214.0	230.0
82.5°	68.4	93.1	133.9	160.1	168.8
85°	40.8	58.2	85.9	100.4	99.0
87.5°	18.9	24.7	34.9	34.9	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)