

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: P313081

Luminaire Tested: **24FCZ2-30-UNV-L83050-HRP-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: P313081
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L83050-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 2016.0 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

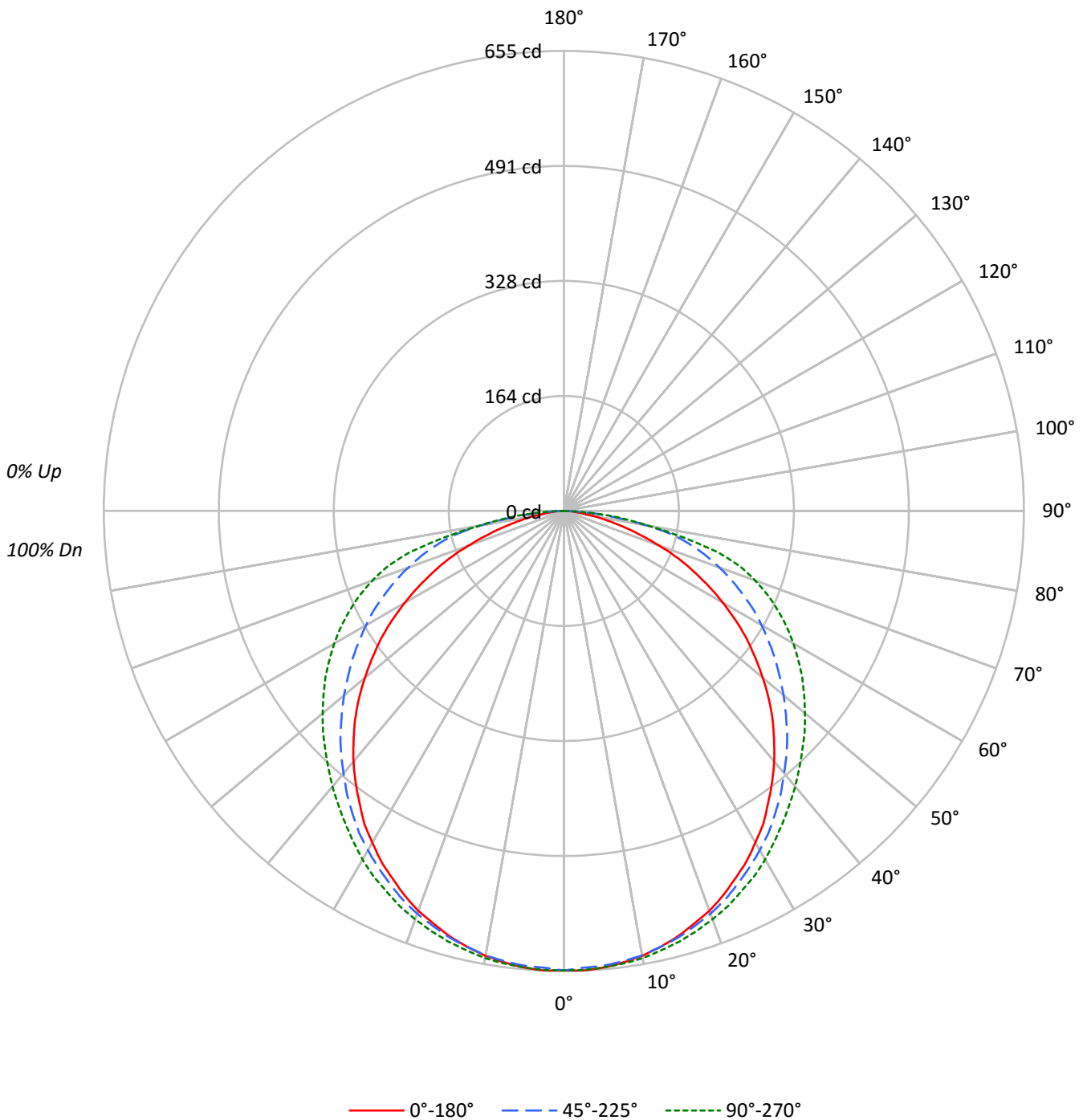
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	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	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	880	880	880
5°	881	878	881
10°	879	878	883
15°	874	876	884
20°	868	874	886
25°	857	870	887
30°	847	867	890
35°	833	862	891
40°	818	857	900
45°	800	856	914
50°	774	855	938
55°	746	861	972
60°	704	874	1015
65°	650	895	1072
70°	568	926	1142
75°	461	974	1180
80°	340	955	955
85°	261	704	795



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.0	3.1
10°-20°	177.9	8.8
20°-30°	270.9	13.4
30°-40°	328.9	16.3
40°-50°	347.5	17.2
50°-60°	327.9	16.3
60°-70°	272.6	13.5
70°-80°	179.4	8.9
80°-90°	48.9	2.4
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°	510.8	25.3
0°-40°	839.7	41.7
0°-60°	1515.1	75.2
0°-90°	2016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	654	654	654	654	654	
5°	652	652	650	652	652	62
15°	627	628	629	635	635	177
25°	577	581	586	596	598	266
35°	507	513	525	538	543	318
45°	420	429	450	472	480	324
55°	318	332	367	402	414	283
65°	204	228	281	322	337	202
75°	89	129	187	222	227	95
85°	17	37	46	51	52	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	654.1	654.1	654.1	654.1	654.1
2.5°	654.9	654.1	650.7	654.1	654.1
5°	652.4	652.4	649.9	652.4	652.4
7.5°	648.2	648.2	646.5	649.9	649.9
10°	643.1	643.1	642.3	646.5	646.5
12.5°	635.5	636.4	635.5	640.6	640.6
15°	627.1	627.9	628.8	634.7	634.7
17.5°	616.1	617.8	619.5	626.2	627.1
20°	606.0	606.8	610.2	617.8	618.6
22.5°	592.5	595.0	599.2	606.8	609.4
25°	577.3	580.7	585.7	595.9	597.5
27.5°	562.9	565.5	572.2	583.2	586.6
30°	545.2	549.4	557.9	568.8	573.1
32.5°	528.3	532.6	542.7	554.5	557.9
35°	507.2	513.1	525.0	538.5	542.7
37.5°	487.0	492.9	507.2	522.4	527.5
40°	465.9	472.6	487.8	505.6	512.3
42.5°	443.1	452.4	469.3	488.7	496.3
45°	420.3	428.7	449.8	471.8	480.2
47.5°	395.8	406.0	428.7	454.9	465.0
50°	369.7	382.3	408.5	437.2	448.2
52.5°	343.5	357.9	387.4	419.5	431.3
55°	318.2	331.7	367.1	401.7	414.4
57.5°	290.3	307.2	346.0	383.2	395.8
60°	261.6	280.2	324.9	363.8	377.3
62.5°	232.9	254.0	304.7	343.5	357.9
65°	204.2	227.9	281.0	322.4	336.8
67.5°	176.4	202.6	259.1	300.5	314.8
70°	144.3	177.2	235.5	276.0	290.3
72.5°	114.8	152.8	212.7	250.7	263.3
75°	88.6	129.1	187.4	222.0	227.0
77.5°	65.0	105.5	161.2	173.0	173.9
80°	43.9	84.4	123.2	121.5	123.2
82.5°	28.7	63.3	77.6	86.9	87.8
85°	16.9	37.1	45.6	50.6	51.5
87.5°	8.4	12.7	16.0	16.9	18.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)