

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: P313456

Luminaire Tested: **24FCZ2-30-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: P313456
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: 24FCZ2-30-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: 1745.0 lumens
Efficiency: N/A
Efficacy: 74.6 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

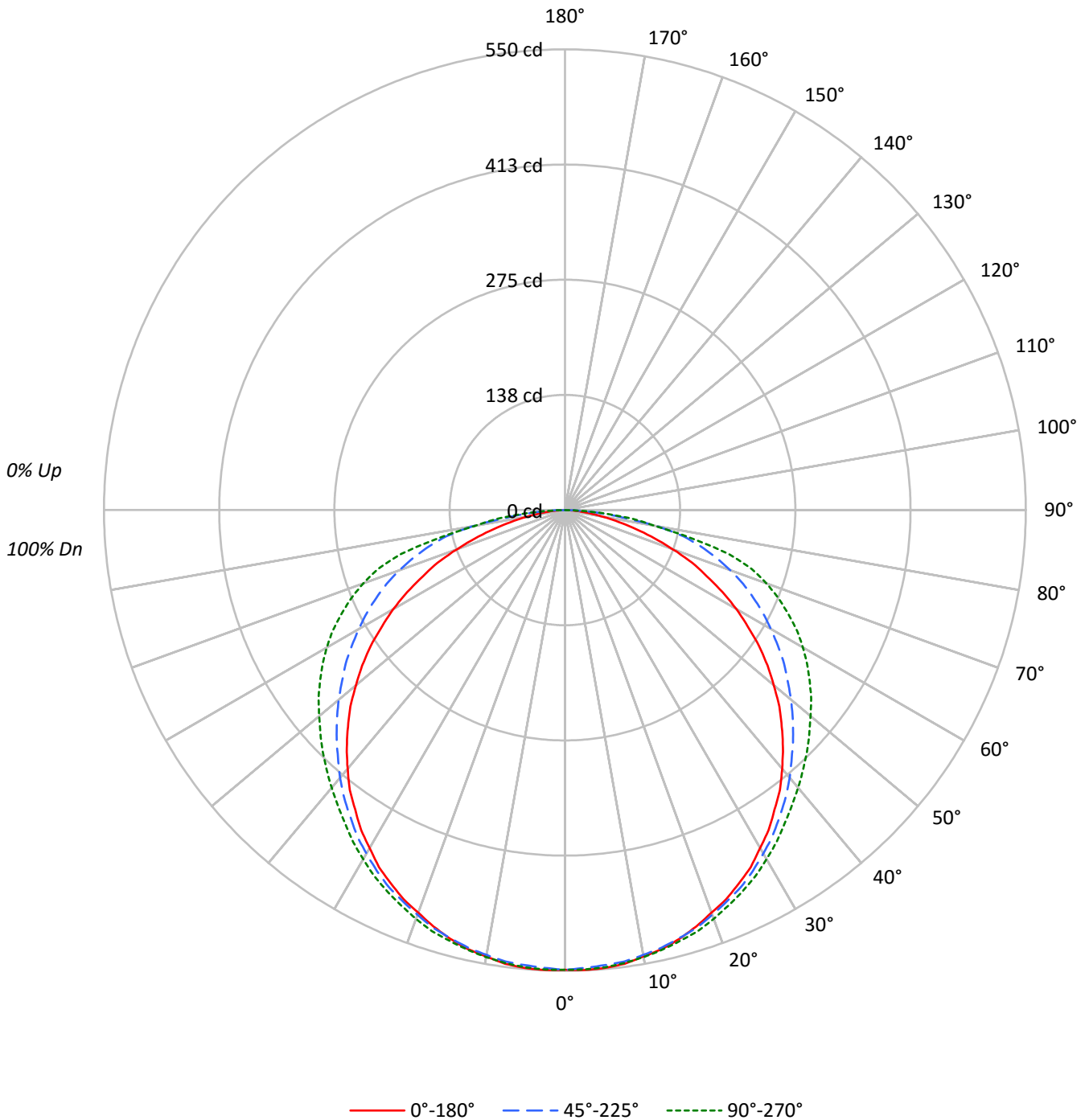
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	738	738	738
5°	741	736	740
10°	739	737	740
15°	738	737	741
20°	732	736	744
25°	730	738	745
30°	724	736	748
35°	716	734	751
40°	708	733	760
45°	697	733	777
50°	681	737	801
55°	664	749	837
60°	636	764	883
65°	595	791	937
70°	541	827	1008
75°	459	873	1053
80°	362	879	852
85°	267	668	749



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.1	3.0
10°-20°	149.8	8.6
20°-30°	229.1	13.1
30°-40°	280.1	16.0
40°-50°	298.5	17.1
50°-60°	285.4	16.4
60°-70°	241.8	13.9
70°-80°	162.5	9.3
80°-90°	45.8	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°	431.0	24.7
0°-40°	711.0	40.7
0°-60°	1294.9	74.2
0°-90°	1745.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1745.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	549	549	549	549	549	
5°	549	548	545	548	548	52
15°	530	530	529	533	532	149
25°	492	493	497	501	502	227
35°	436	440	447	455	457	273
45°	366	372	385	402	408	282
55°	283	293	319	344	357	252
65°	187	206	248	281	294	186
75°	88	120	168	196	202	95
85°	17	36	43	47	48	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	548.8	548.8	548.8	548.8	548.8
2.5°	549.6	549.6	547.0	548.8	548.8
5°	548.8	547.9	545.3	547.9	547.9
7.5°	546.2	545.3	543.6	546.2	545.3
10°	541.0	541.0	539.2	541.8	541.8
12.5°	536.6	535.8	534.9	538.4	537.5
15°	529.7	529.7	528.8	533.2	532.3
17.5°	521.1	521.9	522.8	526.2	527.1
20°	511.5	513.3	514.1	519.3	519.3
22.5°	502.9	503.7	505.5	510.7	510.7
25°	491.6	493.4	496.8	501.1	502.0
27.5°	480.4	481.2	485.6	491.6	492.5
30°	465.7	468.3	473.5	480.4	481.2
32.5°	452.7	455.3	461.3	468.3	470.0
35°	436.2	439.7	446.6	455.3	457.0
37.5°	421.5	424.1	432.8	442.3	444.9
40°	403.3	408.5	417.2	428.4	432.8
42.5°	385.2	390.4	400.7	415.5	420.7
45°	366.1	372.2	385.2	401.6	408.5
47.5°	347.1	354.0	368.7	387.8	395.6
50°	325.4	334.1	352.3	373.9	382.6
52.5°	304.7	315.1	335.0	359.2	370.5
55°	283.0	293.4	319.4	344.5	356.6
57.5°	258.8	272.6	301.2	329.8	342.8
60°	236.3	249.3	283.9	315.1	328.0
62.5°	212.1	229.4	266.6	299.5	312.5
65°	187.0	206.0	248.4	281.3	294.3
67.5°	164.5	185.2	230.2	263.1	276.1
70°	137.6	163.6	210.3	243.2	256.2
72.5°	112.5	141.1	189.6	221.6	233.7
75°	88.3	120.3	167.9	196.5	202.5
77.5°	65.8	99.5	145.4	157.5	153.2
80°	46.7	79.6	113.4	107.3	109.9
82.5°	30.3	60.6	70.1	79.6	82.2
85°	17.3	35.5	43.3	46.7	48.5
87.5°	7.8	13.0	17.3	17.3	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)