

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: P310251

Luminaire Tested: **24FCZ2-50-UNV-L82765-RDP-CP187-W2A-U-4500K**

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: P310251
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: 24FCZ2-50-UNV-L82765-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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: 2924.0 lumens
Efficiency: N/A
Efficacy: 67.2 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

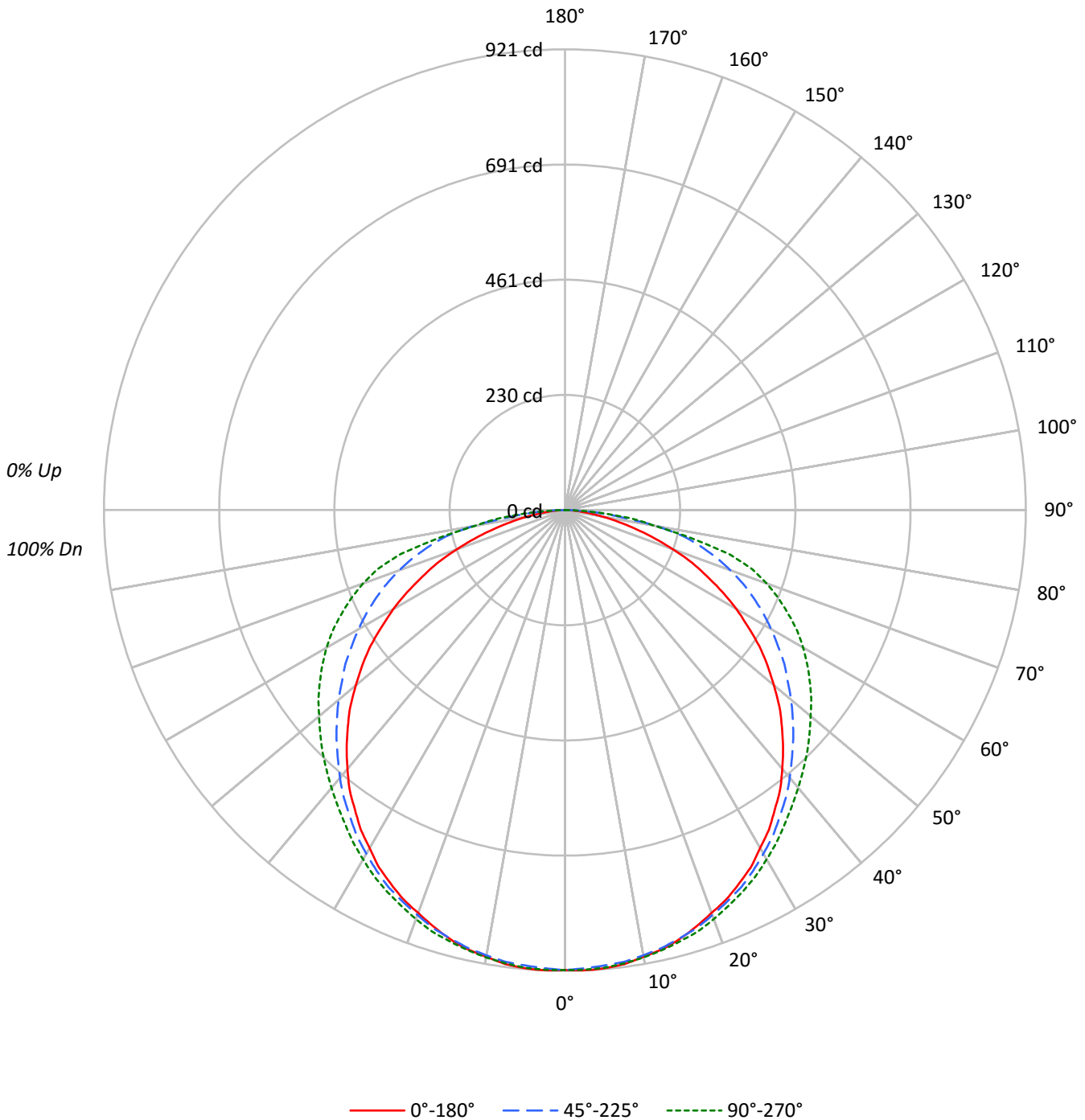
Input Watts (W): 43.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	67	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°	1237	1237	1237
5°	1242	1234	1240
10°	1239	1235	1240
15°	1236	1234	1243
20°	1227	1234	1246
25°	1223	1236	1249
30°	1212	1233	1253
35°	1201	1229	1258
40°	1187	1228	1274
45°	1167	1228	1303
50°	1141	1236	1342
55°	1113	1255	1402
60°	1065	1280	1479
65°	997	1325	1570
70°	907	1386	1689
75°	769	1463	1764
80°	607	1472	1427
85°	448	1119	1254



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.2	3.0
10°-20°	251.0	8.6
20°-30°	383.9	13.1
30°-40°	469.3	16.0
40°-50°	500.2	17.1
50°-60°	478.2	16.4
60°-70°	405.1	13.9
70°-80°	272.3	9.3
80°-90°	76.8	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°	722.1	24.7
0°-40°	1191.4	40.7
0°-60°	2169.8	74.2
0°-90°	2924.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2924.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	920	920	920	920	920	
5°	920	918	914	918	918	87
15°	888	888	886	893	892	250
25°	824	827	832	840	841	380
35°	731	737	748	763	766	458
45°	614	624	645	673	685	473
55°	474	492	535	577	598	422
65°	313	345	416	471	493	311
75°	148	202	281	329	339	158
85°	29	60	72	78	81	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	919.5	919.5	919.5	919.5	919.5
2.5°	921.0	921.0	916.6	919.5	919.5
5°	919.5	918.1	913.7	918.1	918.1
7.5°	915.2	913.7	910.8	915.2	913.7
10°	906.5	906.5	903.6	907.9	907.9
12.5°	899.2	897.8	896.3	902.1	900.7
15°	887.6	887.6	886.2	893.4	892.0
17.5°	873.1	874.6	876.0	881.8	883.3
20°	857.1	860.1	861.5	870.2	870.2
22.5°	842.6	844.1	847.0	855.7	855.7
25°	823.8	826.7	832.5	839.7	841.2
27.5°	804.9	806.4	813.6	823.8	825.2
30°	780.3	784.6	793.3	804.9	806.4
32.5°	758.5	762.9	773.0	784.6	787.5
35°	731.0	736.8	748.4	762.9	765.8
37.5°	706.3	710.7	725.2	741.1	745.5
40°	675.9	684.6	699.1	717.9	725.2
42.5°	645.4	654.1	671.5	696.2	704.9
45°	613.5	623.6	645.4	673.0	684.6
47.5°	581.6	593.2	617.8	649.8	662.8
50°	545.3	559.8	590.3	626.5	641.0
52.5°	510.5	527.9	561.3	601.9	620.7
55°	474.3	491.7	535.2	577.2	597.5
57.5°	433.7	456.9	504.7	552.6	574.3
60°	395.9	417.7	475.7	527.9	549.7
62.5°	355.3	384.3	446.7	501.8	523.6
65°	313.3	345.2	416.2	471.4	493.1
67.5°	275.6	310.4	385.8	440.9	462.7
70°	230.6	274.1	352.4	407.5	429.3
72.5°	188.5	236.4	317.6	371.3	391.6
75°	147.9	201.6	281.4	329.2	339.4
77.5°	110.2	166.8	243.7	264.0	256.7
80°	78.3	133.4	190.0	179.8	184.2
82.5°	50.8	101.5	117.5	133.4	137.8
85°	29.0	59.5	72.5	78.3	81.2
87.5°	13.1	21.8	29.0	29.0	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)