

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: P313931

Luminaire Tested: **24FCZ2-40-UNV-L83050-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: P313931
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L83050-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 3463.0 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

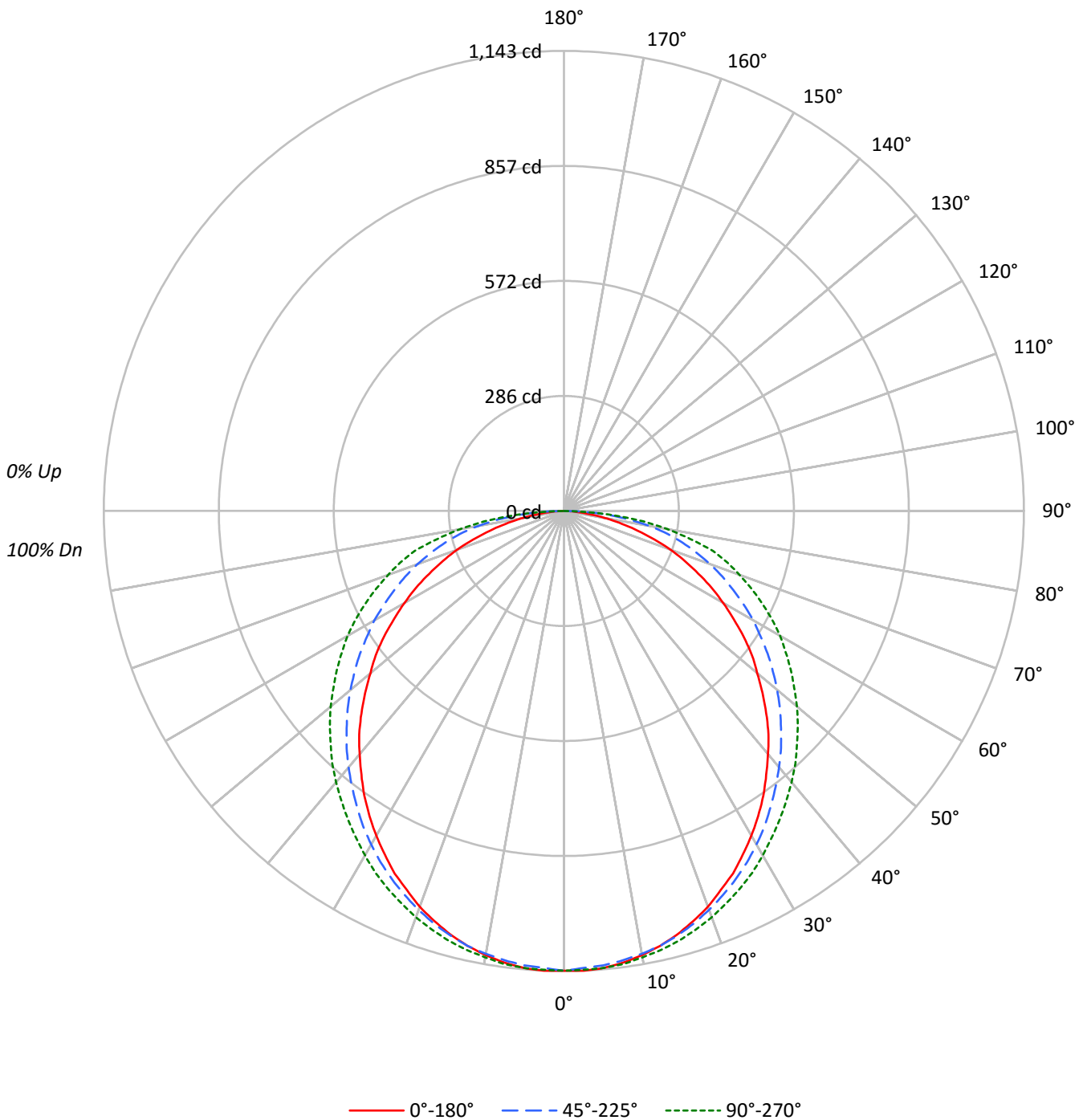
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1537	1537	1537
5°	1539	1530	1539
10°	1530	1526	1538
15°	1517	1520	1540
20°	1499	1510	1538
25°	1476	1499	1537
30°	1448	1487	1535
35°	1419	1472	1536
40°	1386	1461	1546
45°	1353	1452	1559
50°	1313	1448	1582
55°	1280	1450	1614
60°	1231	1463	1669
65°	1174	1478	1730
70°	1112	1523	1826
75°	991	1589	1995
80°	846	1683	2039
85°	604	1667	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	3.1
10°-20°	309.0	8.9
20°-30°	466.8	13.5
30°-40°	562.6	16.2
40°-50°	590.6	17.1
50°-60°	552.6	16.0
60°-70°	456.3	13.2
70°-80°	310.9	9.0
80°-90°	106.1	3.1
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°	883.9	25.5
0°-40°	1446.5	41.8
0°-60°	2589.7	74.8
0°-90°	3463.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3463.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1142	1142	1142	1142	1142	
5°	1140	1139	1133	1140	1140	108
15°	1089	1090	1092	1103	1105	307
25°	994	998	1010	1030	1035	457
35°	864	873	896	926	935	540
45°	711	726	763	804	819	548
55°	546	568	618	669	688	487
65°	369	400	464	523	544	366
75°	191	234	306	363	384	203
85°	39	77	108	122	126	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1142.1	1142.1	1142.1	1142.1	1142.1
2.5°	1143.2	1142.1	1136.3	1142.1	1140.9
5°	1139.8	1138.6	1132.9	1139.8	1139.8
7.5°	1131.7	1131.7	1126.0	1134.0	1135.2
10°	1120.2	1120.2	1116.8	1126.0	1126.0
12.5°	1106.4	1106.4	1106.4	1115.6	1116.8
15°	1089.2	1090.4	1091.5	1103.0	1105.3
17.5°	1068.5	1070.8	1074.3	1088.1	1090.4
20°	1046.7	1049.0	1054.7	1070.8	1074.3
22.5°	1019.1	1024.9	1032.9	1051.3	1054.7
25°	993.9	998.4	1009.9	1029.5	1035.2
27.5°	962.8	969.7	984.7	1005.3	1013.4
30°	931.8	938.7	957.1	981.2	988.1
32.5°	898.5	908.8	928.4	953.6	961.7
35°	864.0	873.2	896.2	926.1	935.3
37.5°	826.1	838.7	864.0	896.2	907.7
40°	789.3	803.1	831.8	866.3	880.1
42.5°	752.6	766.4	798.5	837.6	851.4
45°	711.2	726.1	762.9	804.3	819.2
47.5°	669.8	688.2	728.4	772.1	788.2
50°	627.3	648.0	691.7	737.6	756.0
52.5°	589.4	608.9	654.9	704.3	721.5
55°	545.8	567.6	618.1	668.7	688.2
57.5°	500.9	525.1	579.1	634.2	653.8
60°	457.3	483.7	543.5	598.6	620.4
62.5°	414.8	441.2	503.2	560.7	582.5
65°	368.8	399.8	464.2	522.8	543.5
67.5°	325.2	358.5	426.3	483.7	504.4
70°	282.6	314.8	387.2	443.5	464.2
72.5°	236.7	273.5	345.8	404.4	426.3
75°	190.7	234.4	305.6	363.1	383.8
77.5°	148.2	193.0	264.3	311.4	321.7
80°	109.2	155.1	217.2	250.5	263.1
82.5°	70.1	116.0	165.5	189.6	199.9
85°	39.1	77.0	108.0	121.8	126.4
87.5°	16.1	33.3	43.7	49.4	49.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)