

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: P310747

Luminaire Tested: **24FCZ2-40-UNV-L82765-CP187-W2A-U-5000K**

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: P310747
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-L82765-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 3566.0 lumens
Efficiency: N/A
Efficacy: 106.4 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

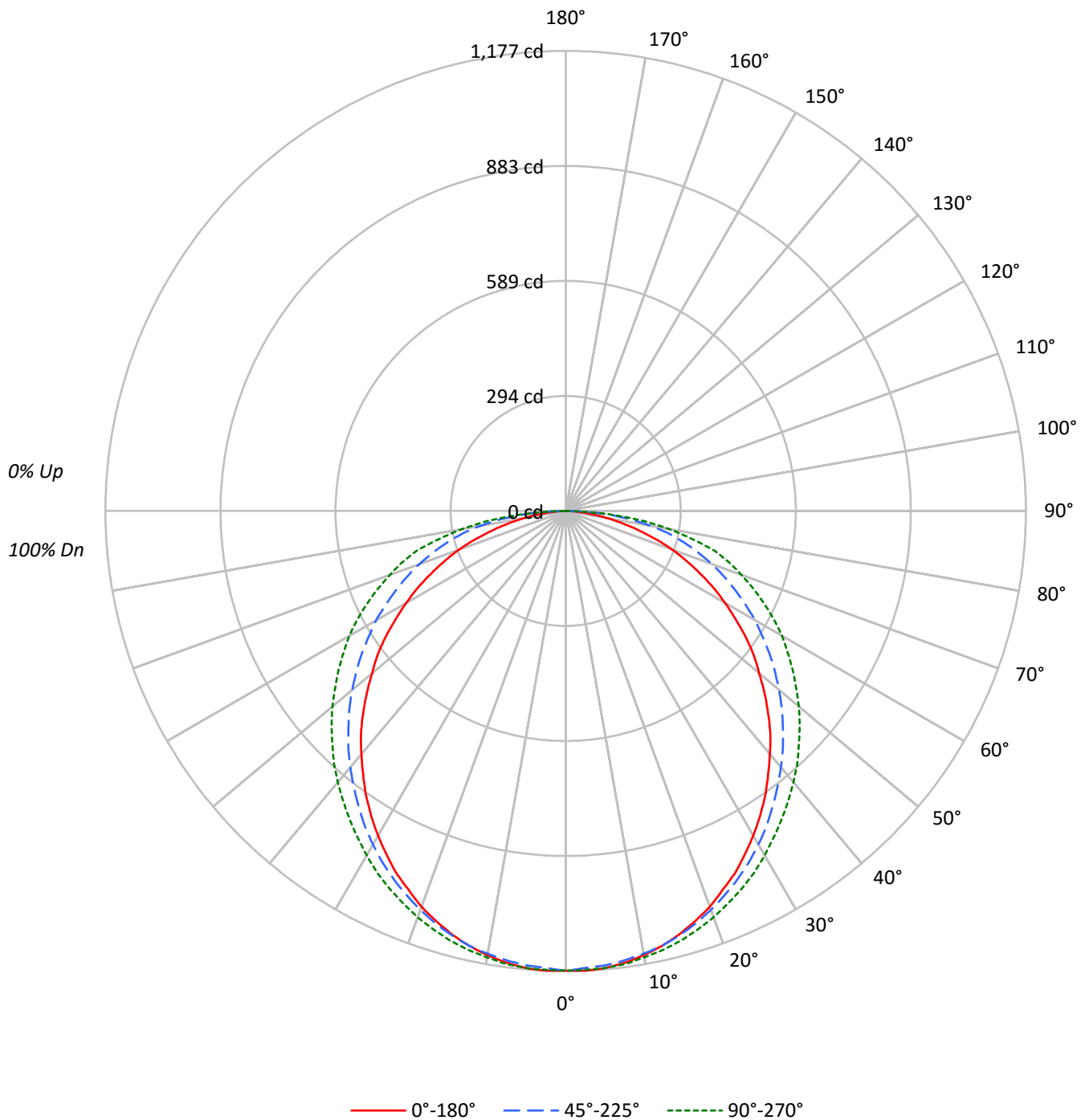
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1582	1582	1582
5°	1585	1576	1585
10°	1576	1571	1584
15°	1562	1566	1585
20°	1543	1555	1584
25°	1519	1544	1583
30°	1491	1531	1581
35°	1461	1516	1582
40°	1428	1505	1592
45°	1394	1495	1605
50°	1352	1491	1630
55°	1318	1493	1662
60°	1267	1506	1719
65°	1209	1522	1782
70°	1145	1568	1880
75°	1021	1636	2054
80°	871	1733	2099
85°	621	1717	2008



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.3	3.1
10°-20°	318.2	8.9
20°-30°	480.7	13.5
30°-40°	579.3	16.2
40°-50°	608.2	17.1
50°-60°	569.0	16.0
60°-70°	469.9	13.2
70°-80°	320.2	9.0
80°-90°	109.2	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°	910.2	25.5
0°-40°	1489.5	41.8
0°-60°	2666.7	74.8
0°-90°	3566.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3566.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1174	1172	1167	1174	1174	111
15°	1122	1123	1124	1136	1138	316
25°	1023	1028	1040	1060	1066	471
35°	890	899	923	954	963	556
45°	732	748	786	828	844	565
55°	562	584	636	689	709	502
65°	380	412	478	538	560	377
75°	196	241	315	374	395	209
85°	40	79	111	125	130	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1176.0	1176.0	1176.0	1176.0	1176.0
2.5°	1177.2	1176.0	1170.1	1176.0	1174.9
5°	1173.7	1172.5	1166.6	1173.7	1173.7
7.5°	1165.4	1165.4	1159.5	1167.8	1168.9
10°	1153.6	1153.6	1150.0	1159.5	1159.5
12.5°	1139.4	1139.4	1139.4	1148.8	1150.0
15°	1121.6	1122.8	1124.0	1135.8	1138.2
17.5°	1100.3	1102.7	1106.2	1120.4	1122.8
20°	1077.8	1080.2	1086.1	1102.7	1106.2
22.5°	1049.4	1055.4	1063.6	1082.6	1086.1
25°	1023.4	1028.1	1040.0	1060.1	1066.0
27.5°	991.5	998.6	1013.9	1035.2	1043.5
30°	959.5	966.6	985.6	1010.4	1017.5
32.5°	925.2	935.9	956.0	982.0	990.3
35°	889.7	899.2	922.8	953.6	963.1
37.5°	850.7	863.7	889.7	922.8	934.7
40°	812.8	827.0	856.6	892.1	906.3
42.5°	775.0	789.2	822.3	862.5	876.7
45°	732.4	747.7	785.6	828.2	843.6
47.5°	689.8	708.7	750.1	795.1	811.6
50°	646.0	667.3	712.2	759.6	778.5
52.5°	606.9	627.1	674.4	725.3	743.0
55°	562.0	584.5	636.5	688.6	708.7
57.5°	515.8	540.7	596.3	653.1	673.2
60°	470.9	498.1	559.6	616.4	638.9
62.5°	427.1	454.3	518.2	577.4	599.8
65°	379.8	411.7	478.0	538.3	559.6
67.5°	334.8	369.1	438.9	498.1	519.4
70°	291.1	324.2	398.7	456.7	478.0
72.5°	243.7	281.6	356.1	416.5	438.9
75°	196.4	241.4	314.7	373.9	395.2
77.5°	152.6	198.8	272.1	320.6	331.3
80°	112.4	159.7	223.6	257.9	270.9
82.5°	72.2	119.5	170.4	195.2	205.9
85°	40.2	79.3	111.2	125.4	130.1
87.5°	16.6	34.3	45.0	50.9	50.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)