

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: P311425

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP187-W2A-U-6500K**

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: P311425  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
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-S-CP187-W2A-U-6500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 6500K 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**

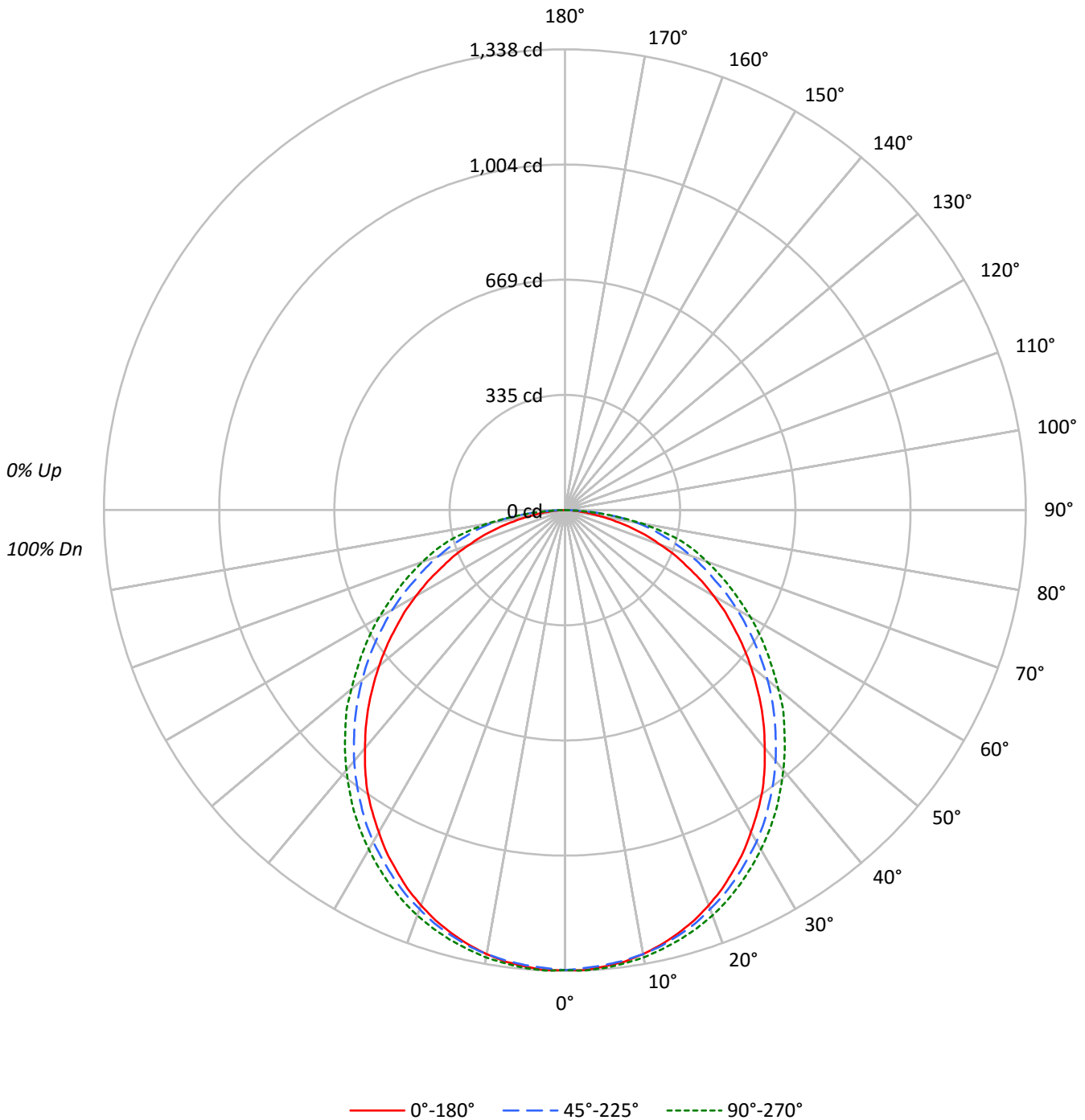
Lumens per Lamp: N/A  
Luminaire Lumens: 3803.0 lumens  
Efficiency: N/A  
Efficacy: 111.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1798	1798	1798
5°	1796	1791	1803
10°	1789	1789	1802
15°	1772	1780	1799
20°	1749	1766	1794
25°	1716	1749	1783
30°	1678	1728	1768
35°	1641	1700	1754
40°	1585	1672	1733
45°	1533	1639	1715
50°	1474	1608	1694
55°	1408	1578	1677
60°	1343	1554	1674
65°	1258	1527	1684
70°	1164	1535	1730
75°	1042	1564	1827
80°	842	1657	1788
85°	634	1454	1417



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.5	3.3
10°-20°	361.4	9.5
20°-30°	543.3	14.3
30°-40°	647.1	17.0
40°-50°	662.3	17.4
50°-60°	596.3	15.7
60°-70°	468.3	12.3
70°-80°	303.9	8.0
80°-90°	94.0	2.5
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°	1031.2	27.1
0°-40°	1678.3	44.1
0°-60°	2936.8	77.2
0°-90°	3803.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3803.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1336	1336	1336	1336	1336	
5°	1330	1332	1326	1334	1335	126
15°	1272	1276	1278	1289	1291	359
25°	1156	1166	1178	1197	1201	533
35°	999	1011	1035	1061	1068	623
45°	806	825	861	894	901	621
55°	600	627	673	708	715	538
65°	395	425	480	519	529	393
75°	200	239	301	342	352	212
85°	41	76	94	92	92	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1336.0	1336.0	1336.0	1336.0	1336.0
2.5°	1337.2	1337.2	1331.2	1337.2	1338.4
5°	1330.0	1332.4	1326.4	1333.6	1334.8
7.5°	1322.7	1322.7	1319.1	1326.4	1327.6
10°	1309.4	1310.7	1309.4	1317.9	1319.1
12.5°	1292.5	1294.9	1296.2	1304.6	1305.8
15°	1272.0	1275.6	1278.0	1288.9	1291.3
17.5°	1249.0	1252.7	1258.7	1270.8	1273.2
20°	1221.3	1226.1	1233.3	1249.0	1252.7
22.5°	1191.1	1195.9	1208.0	1222.5	1228.5
25°	1156.0	1165.7	1177.8	1197.1	1200.7
27.5°	1121.0	1129.5	1145.2	1165.7	1170.5
30°	1079.9	1093.2	1112.5	1133.1	1137.9
32.5°	1040.1	1053.4	1076.3	1098.0	1104.1
35°	999.0	1011.1	1035.2	1060.6	1067.8
37.5°	951.9	967.6	994.2	1019.5	1026.8
40°	902.4	921.7	951.9	978.5	986.9
42.5°	855.2	875.8	906.0	935.0	944.6
45°	805.7	825.0	861.3	893.9	901.1
47.5°	755.0	776.7	815.4	848.0	860.1
50°	704.2	727.2	768.3	802.1	809.3
52.5°	653.5	677.7	721.2	757.4	761.0
55°	600.4	626.9	672.8	707.9	715.1
57.5°	552.0	575.0	624.5	660.8	669.2
60°	498.9	524.3	577.4	611.2	622.1
62.5°	448.2	474.7	530.3	564.1	573.8
65°	395.0	425.2	479.6	519.4	529.1
67.5°	349.1	378.1	436.1	474.7	484.4
70°	296.0	328.6	390.2	430.0	439.7
72.5°	250.1	283.9	345.5	384.1	398.6
75°	200.5	239.2	300.8	341.9	351.5
77.5°	152.2	196.9	259.7	291.1	291.1
80°	108.7	155.8	213.8	228.3	230.7
82.5°	71.3	117.2	158.2	157.0	157.0
85°	41.1	76.1	94.2	91.8	91.8
87.5°	15.7	31.4	33.8	33.8	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)