

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: P312780

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-CP187-W2A-U-3000K**

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: P312780  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-24HE-UNV-L83050-CP187-W2A-U-3000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 3000K 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**

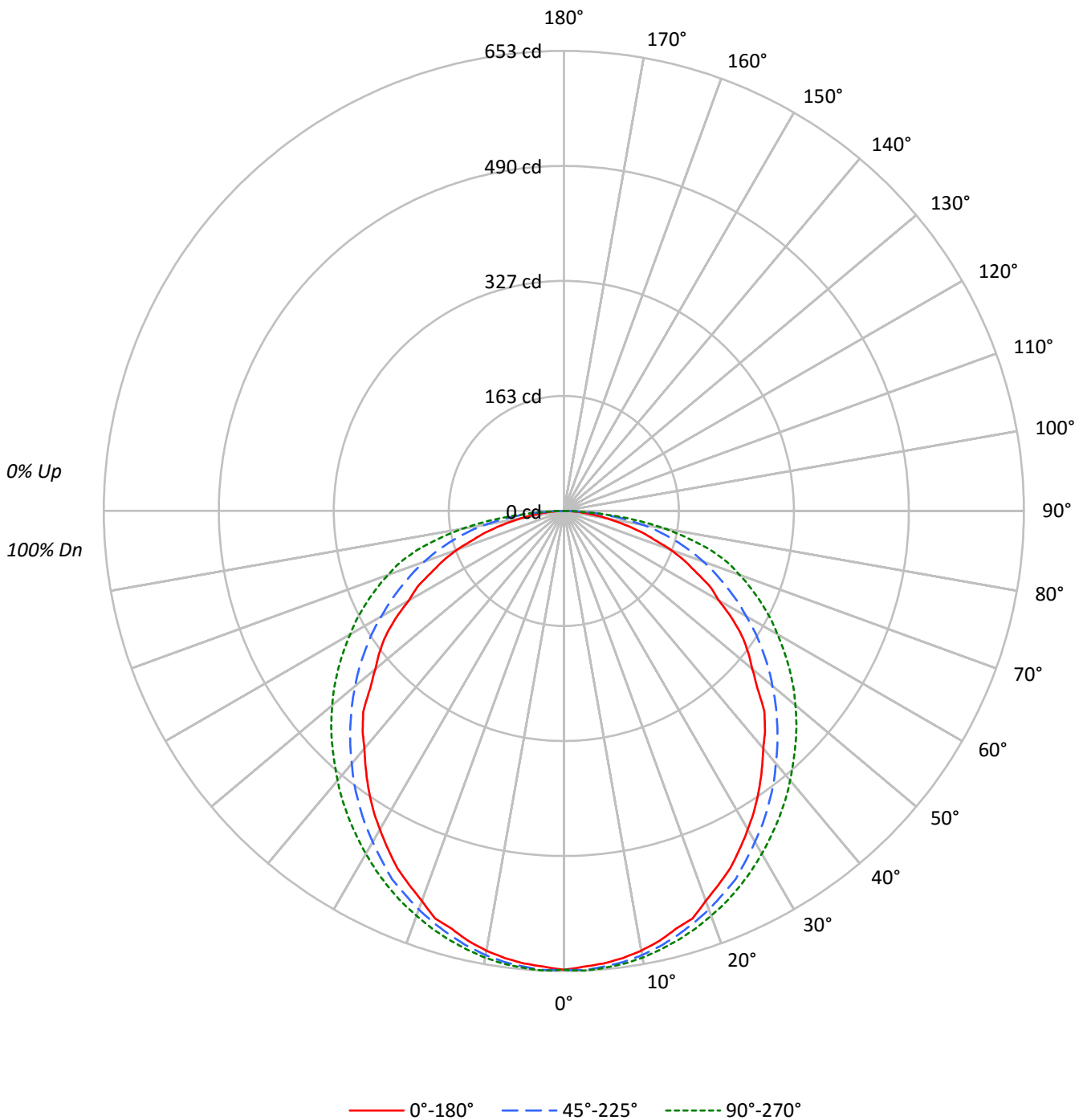
Lumens per Lamp: N/A  
Luminaire Lumens: 1941.0 lumens  
Efficiency: N/A  
Efficacy: 102.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 18.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	1752	1752	1752
5°	1742	1754	1759
10°	1731	1749	1759
15°	1711	1737	1755
20°	1687	1724	1751
25°	1661	1713	1749
30°	1622	1686	1746
35°	1587	1666	1749
40°	1547	1645	1756
45°	1531	1630	1771
50°	1462	1618	1797
55°	1447	1612	1835
60°	1365	1610	1885
65°	1325	1621	1970
70°	1271	1659	2090
75°	1159	1709	2251
80°	993	1771	2275
85°	803	1692	1951



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.6	3.2
10°-20°	175.8	9.1
20°-30°	264.6	13.6
30°-40°	317.5	16.4
40°-50°	331.9	17.1
50°-60°	309.3	15.9
60°-70°	253.7	13.1
70°-80°	170.9	8.8
80°-90°	55.7	2.9
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°	502.0	25.9
0°-40°	819.5	42.2
0°-60°	1460.7	75.3
0°-90°	1941.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1941.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	651	651	651	651	651	
5°	645	647	649	650	651	61
15°	614	618	623	629	630	174
25°	559	563	577	585	589	257
35°	483	490	507	525	532	302
45°	402	405	428	454	465	307
55°	308	314	344	376	391	273
65°	208	217	254	292	309	207
75°	112	124	164	202	216	117
85°	26	37	55	64	63	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	651.2	651.2	651.2	651.2	651.2
2.5°	647.5	649.4	652.2	653.1	653.1
5°	644.7	646.6	649.4	650.3	651.2
7.5°	640.1	641.9	645.6	647.5	648.4
10°	633.6	635.4	640.1	642.9	643.8
12.5°	625.2	627.1	632.6	636.4	637.3
15°	614.1	617.8	623.4	628.9	629.9
17.5°	606.6	605.7	613.1	619.6	621.5
20°	589.0	593.6	602.0	609.4	611.3
22.5°	574.1	577.8	589.0	597.3	601.1
25°	559.3	563.0	576.9	585.3	589.0
27.5°	540.7	546.2	559.3	571.3	576.0
30°	522.1	527.7	542.5	556.5	562.0
32.5°	503.5	510.0	525.8	540.7	547.2
35°	483.1	489.6	507.2	524.9	532.3
37.5°	461.7	470.1	488.6	508.2	516.5
40°	440.3	448.7	468.2	490.5	499.8
42.5°	422.7	426.4	448.7	472.9	482.1
45°	402.3	405.0	428.3	454.3	465.4
47.5°	372.5	382.7	407.8	436.6	447.8
50°	349.3	360.4	386.5	417.1	429.2
52.5°	329.8	337.2	366.0	396.7	410.6
55°	308.4	314.0	343.7	376.2	391.1
57.5°	282.4	292.6	322.4	355.8	370.7
60°	253.6	266.6	299.1	335.4	350.2
62.5°	235.0	242.5	277.8	314.0	330.7
65°	208.1	217.4	254.5	291.7	309.4
67.5°	185.8	195.1	233.2	270.3	288.0
70°	161.6	170.9	210.9	248.0	265.7
72.5°	133.8	146.8	188.6	225.7	244.3
75°	111.5	123.6	164.4	201.6	216.5
77.5°	86.4	102.2	140.3	170.9	182.1
80°	64.1	79.9	114.3	136.6	146.8
82.5°	43.7	59.5	85.5	102.2	107.8
85°	26.0	37.2	54.8	64.1	63.2
87.5°	12.1	15.8	22.3	22.3	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)