

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: P312783

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-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: P312783  
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-4500K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 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**

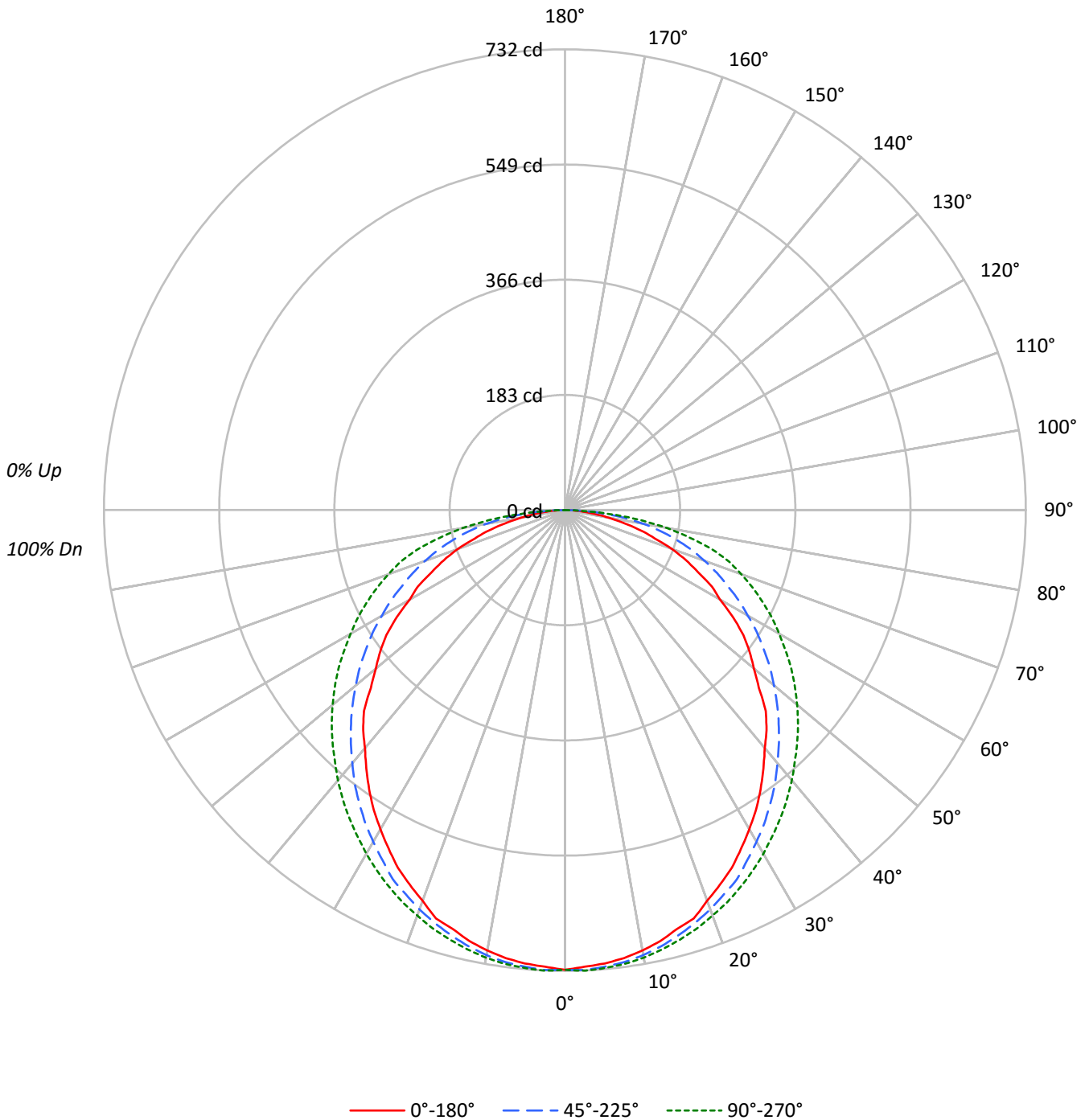
Lumens per Lamp: N/A  
Luminaire Lumens: 2177.0 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 19.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1965	1965	1965
5°	1953	1967	1973
10°	1942	1962	1973
15°	1919	1948	1968
20°	1892	1934	1963
25°	1862	1921	1961
30°	1820	1891	1959
35°	1780	1869	1961
40°	1735	1845	1969
45°	1717	1828	1987
50°	1640	1814	2015
55°	1623	1809	2058
60°	1531	1806	2114
65°	1486	1818	2209
70°	1426	1861	2345
75°	1300	1917	2524
80°	1114	1987	2551
85°	902	1899	2189



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.1	3.2
10°-20°	197.2	9.1
20°-30°	296.7	13.6
30°-40°	356.1	16.4
40°-50°	372.2	17.1
50°-60°	346.9	15.9
60°-70°	284.5	13.1
70°-80°	191.7	8.8
80°-90°	62.5	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°	563.0	25.9
0°-40°	919.2	42.2
0°-60°	1638.3	75.3
0°-90°	2177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2177.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	730	730	730	730	730	
5°	723	725	728	729	730	69
15°	689	693	699	705	706	195
25°	627	631	647	656	661	288
35°	542	549	569	589	597	339
45°	451	454	480	510	522	345
55°	346	352	386	422	439	307
65°	233	244	286	327	347	232
75°	125	139	184	226	243	131
85°	29	42	62	72	71	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	730.4	730.4	730.4	730.4	730.4
2.5°	726.2	728.3	731.4	732.5	732.5
5°	723.1	725.2	728.3	729.4	730.4
7.5°	717.9	720.0	724.2	726.2	727.3
10°	710.6	712.7	717.9	721.0	722.1
12.5°	701.2	703.3	709.6	713.7	714.8
15°	688.7	692.9	699.1	705.4	706.4
17.5°	680.4	679.3	687.7	695.0	697.1
20°	660.6	665.8	675.2	683.5	685.6
22.5°	643.9	648.1	660.6	670.0	674.1
25°	627.2	631.4	647.0	656.4	660.6
27.5°	606.4	612.7	627.2	640.8	646.0
30°	585.6	591.8	608.5	624.1	630.4
32.5°	564.7	572.0	589.7	606.4	613.7
35°	541.8	549.1	568.9	588.7	597.0
37.5°	517.8	527.2	548.1	569.9	579.3
40°	493.9	503.3	525.1	550.1	560.6
42.5°	474.1	478.3	503.3	530.3	540.8
45°	451.2	454.3	480.3	509.5	522.0
47.5°	417.8	429.3	457.4	489.7	502.2
50°	391.8	404.3	433.4	467.8	481.4
52.5°	369.9	378.2	410.5	444.9	460.5
55°	345.9	352.2	385.5	422.0	438.7
57.5°	316.8	328.2	361.6	399.1	415.7
60°	284.5	299.0	335.5	376.1	392.8
62.5°	263.6	271.9	311.5	352.2	370.9
65°	233.4	243.8	285.5	327.2	347.0
67.5°	208.4	218.8	261.5	303.2	323.0
70°	181.3	191.7	236.5	278.2	298.0
72.5°	150.0	164.6	211.5	253.2	274.0
75°	125.0	138.6	184.4	226.1	242.8
77.5°	96.9	114.6	157.3	191.7	204.2
80°	71.9	89.6	128.2	153.2	164.6
82.5°	49.0	66.7	95.9	114.6	120.9
85°	29.2	41.7	61.5	71.9	70.9
87.5°	13.5	17.7	25.0	25.0	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)