

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: P312768

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-CA08-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: P312768  
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-CA08-W2A-U-4500K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 2327.0 lumens  
Efficiency: N/A  
Efficacy: 117.5 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

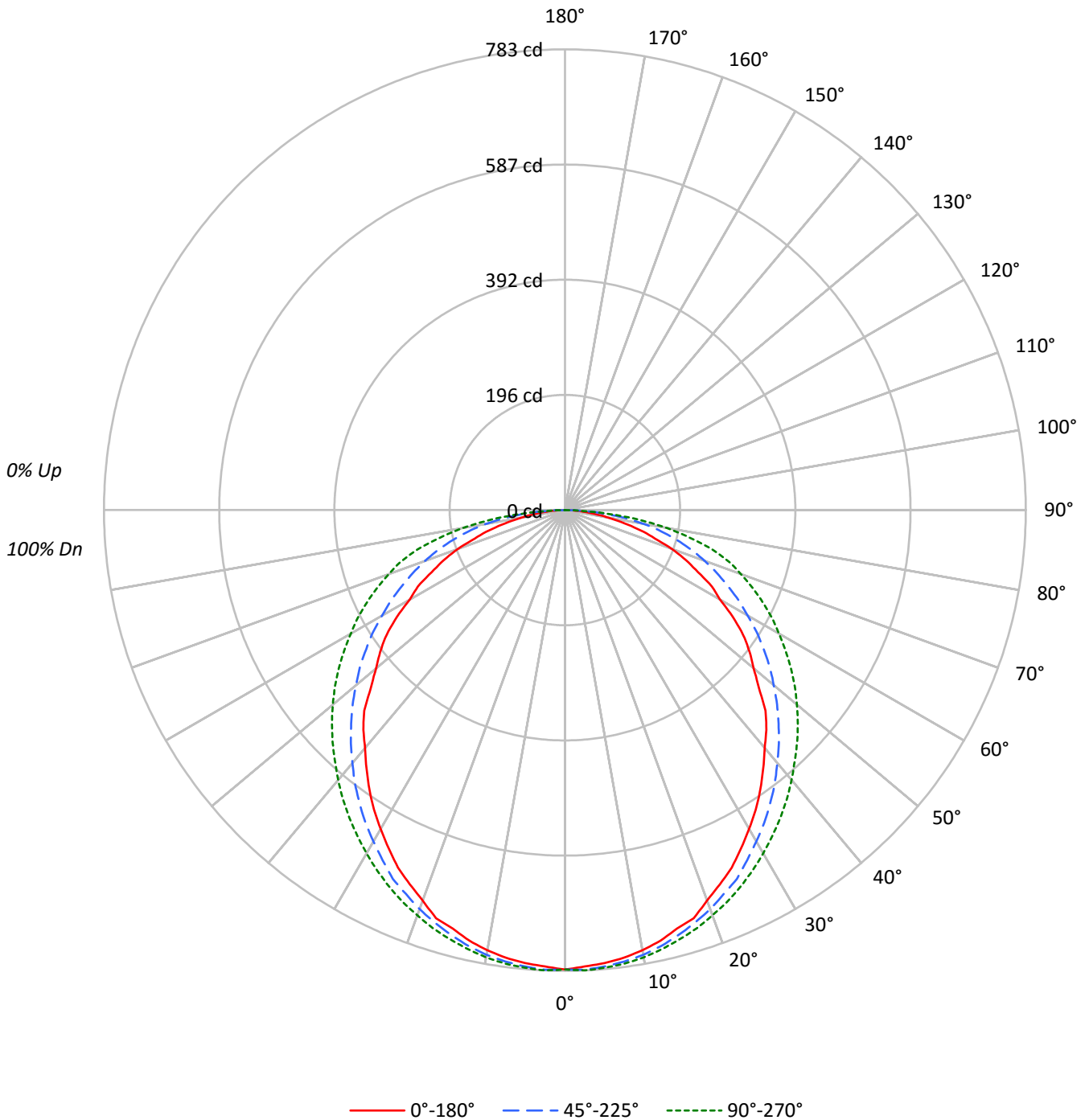
Input Watts (W): 19.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2101	2101	2101
5°	2088	2103	2109
10°	2076	2097	2109
15°	2051	2082	2104
20°	2022	2067	2099
25°	1991	2053	2097
30°	1945	2021	2094
35°	1902	1998	2097
40°	1854	1972	2105
45°	1835	1954	2124
50°	1753	1940	2154
55°	1735	1933	2200
60°	1636	1930	2260
65°	1589	1943	2362
70°	1525	1989	2506
75°	1389	2049	2698
80°	1190	2123	2727
85°	963	2029	2337



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.9	3.2
10°-20°	210.8	9.1
20°-30°	317.2	13.6
30°-40°	380.7	16.4
40°-50°	397.9	17.1
50°-60°	370.8	15.9
60°-70°	304.1	13.1
70°-80°	204.9	8.8
80°-90°	66.7	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°	601.8	25.9
0°-40°	982.5	42.2
0°-60°	1751.2	75.3
0°-90°	2327.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2327.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	781	781	781	781	781	
5°	773	775	778	780	781	73
15°	736	741	747	754	755	208
25°	670	675	692	702	706	308
35°	579	587	608	629	638	362
45°	482	486	513	545	558	368
55°	370	376	412	451	469	328
65°	250	261	305	350	371	248
75°	134	148	197	242	260	140
85°	31	44	66	77	76	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	780.7	780.7	780.7	780.7	780.7
2.5°	776.3	778.5	781.8	783.0	783.0
5°	772.9	775.2	778.5	779.6	780.7
7.5°	767.4	769.6	774.0	776.3	777.4
10°	759.6	761.8	767.4	770.7	771.8
12.5°	749.5	751.8	758.5	762.9	764.0
15°	736.2	740.6	747.3	754.0	755.1
17.5°	727.3	726.2	735.1	742.9	745.1
20°	706.1	711.7	721.7	730.6	732.8
22.5°	688.3	692.7	706.1	716.1	720.6
25°	670.5	674.9	691.6	701.7	706.1
27.5°	648.2	654.9	670.5	684.9	690.5
30°	625.9	632.6	650.4	667.1	673.8
32.5°	603.6	611.4	630.4	648.2	656.0
35°	579.1	586.9	608.1	629.3	638.2
37.5°	553.5	563.5	585.8	609.2	619.2
40°	527.9	537.9	561.3	588.1	599.2
42.5°	506.7	511.2	537.9	566.9	578.0
45°	482.2	485.6	513.4	544.6	558.0
47.5°	446.6	458.9	488.9	523.5	536.8
50°	418.8	432.1	463.3	500.1	514.5
52.5°	395.4	404.3	438.8	475.6	492.3
55°	369.8	376.4	412.1	451.1	468.9
57.5°	338.6	350.8	386.5	426.6	444.4
60°	304.0	319.6	358.6	402.1	419.9
62.5°	281.8	290.7	333.0	376.4	396.5
65°	249.5	260.6	305.2	349.7	370.9
67.5°	222.7	233.9	279.5	324.1	345.3
70°	193.8	204.9	252.8	297.4	318.5
72.5°	160.4	176.0	226.1	270.6	292.9
75°	133.6	148.1	197.1	241.7	259.5
77.5°	103.6	122.5	168.2	204.9	218.3
80°	76.8	95.8	137.0	163.7	176.0
82.5°	52.3	71.3	102.5	122.5	129.2
85°	31.2	44.5	65.7	76.8	75.7
87.5°	14.5	18.9	26.7	26.7	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)