

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: P312782

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-CP187-W2A-U-4000K**

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: P312782  
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-4000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 4000K 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**

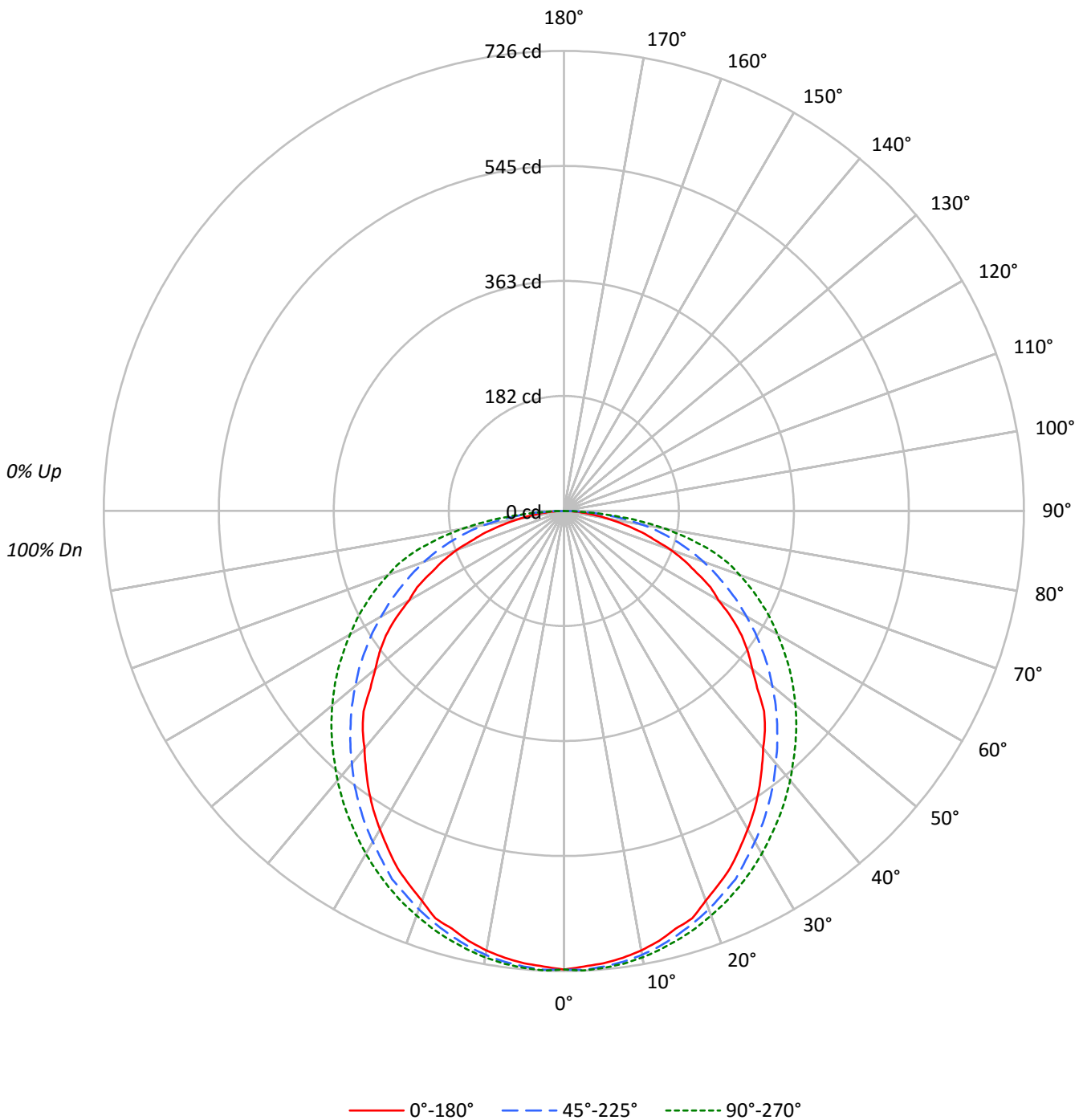
Lumens per Lamp: N/A  
Luminaire Lumens: 2157.0 lumens  
Efficiency: N/A  
Efficacy: 111.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 19.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1947	1947	1947
5°	1935	1949	1955
10°	1924	1944	1955
15°	1901	1930	1950
20°	1874	1916	1945
25°	1845	1904	1943
30°	1803	1873	1941
35°	1763	1852	1943
40°	1719	1828	1951
45°	1701	1811	1968
50°	1625	1798	1997
55°	1608	1792	2039
60°	1517	1789	2095
65°	1473	1801	2189
70°	1413	1843	2323
75°	1288	1900	2501
80°	1103	1968	2528
85°	892	1880	2167



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.5	3.2
10°-20°	195.4	9.1
20°-30°	294.0	13.6
30°-40°	352.9	16.4
40°-50°	368.8	17.1
50°-60°	343.7	15.9
60°-70°	281.9	13.1
70°-80°	190.0	8.8
80°-90°	61.9	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°	557.8	25.9
0°-40°	910.7	42.2
0°-60°	1623.2	75.3
0°-90°	2157.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2157.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	724	724	724	724	724	
5°	716	718	722	723	724	68
15°	682	686	693	699	700	193
25°	622	626	641	650	654	286
35°	537	544	564	583	592	336
45°	447	450	476	505	517	341
55°	343	349	382	418	435	304
65°	231	242	283	324	344	230
75°	124	137	183	224	240	130
85°	29	41	61	71	70	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	723.7	723.7	723.7	723.7	723.7
2.5°	719.6	721.6	724.7	725.8	725.8
5°	716.5	718.5	721.6	722.7	723.7
7.5°	711.3	713.4	717.5	719.6	720.6
10°	704.1	706.1	711.3	714.4	715.4
12.5°	694.8	696.9	703.0	707.2	708.2
15°	682.4	686.5	692.7	698.9	699.9
17.5°	674.1	673.1	681.4	688.6	690.7
20°	654.5	659.7	669.0	677.2	679.3
22.5°	638.0	642.1	654.5	663.8	667.9
25°	621.5	625.6	641.1	650.4	654.5
27.5°	600.8	607.0	621.5	634.9	640.1
30°	580.2	586.4	602.9	618.4	624.6
32.5°	559.5	566.8	584.3	600.8	608.1
35°	536.8	544.1	563.7	583.3	591.5
37.5°	513.1	522.4	543.0	564.7	574.0
40°	489.3	498.6	520.3	545.1	555.4
42.5°	469.7	473.9	498.6	525.5	535.8
45°	447.0	450.1	475.9	504.8	517.2
47.5°	414.0	425.3	453.2	485.2	497.6
50°	388.2	400.6	429.5	463.5	477.0
52.5°	366.5	374.8	406.8	440.8	456.3
55°	342.7	348.9	382.0	418.1	434.6
57.5°	313.8	325.2	358.2	395.4	411.9
60°	281.8	296.3	332.4	372.7	389.2
62.5°	261.2	269.4	308.7	348.9	367.5
65°	231.3	241.6	282.9	324.2	343.8
67.5°	206.5	216.8	259.1	300.4	320.0
70°	179.6	190.0	234.3	275.6	295.3
72.5°	148.7	163.1	209.6	250.9	271.5
75°	123.9	137.3	182.7	224.0	240.5
77.5°	96.0	113.6	155.9	190.0	202.3
80°	71.2	88.8	127.0	151.8	163.1
82.5°	48.5	66.1	95.0	113.6	119.8
85°	28.9	41.3	60.9	71.2	70.2
87.5°	13.4	17.6	24.8	24.8	23.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)