

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: P312931

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CP187-W2A-U-3500K**

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: P312931  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
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-S-CP187-W2A-U-3500K  
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 3500K 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**

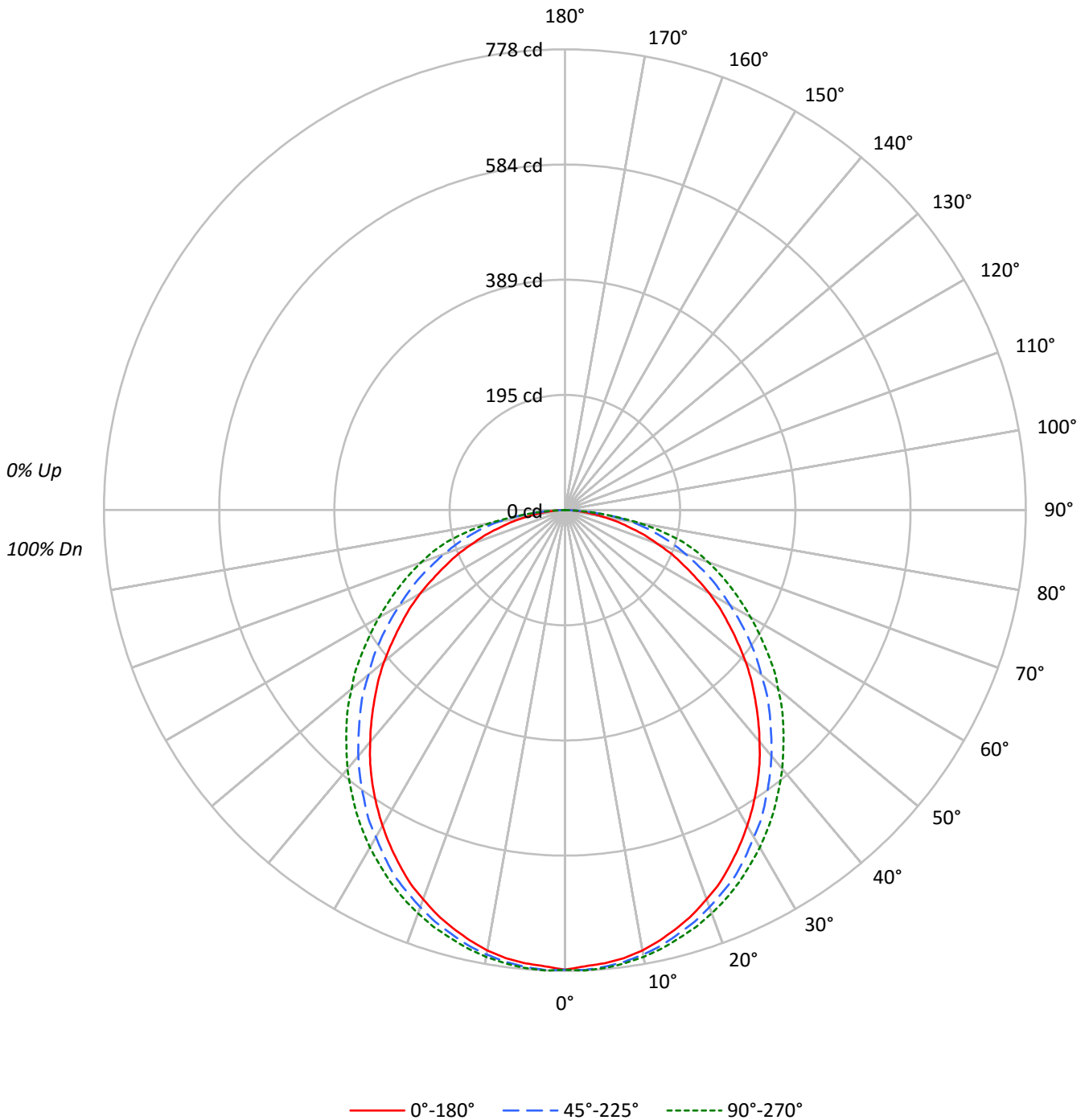
Lumens per Lamp: N/A  
Luminaire Lumens: 2166.0 lumens  
Efficiency: N/A  
Efficacy: 114.6 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 18.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

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

	0°	45°	90°
0°	2088	2088	2088
5°	2075	2091	2096
10°	2063	2082	2093
15°	2036	2064	2083
20°	2003	2043	2075
25°	1962	2022	2061
30°	1913	1982	2044
35°	1859	1945	2025
40°	1796	1906	2006
45°	1731	1861	1985
50°	1667	1811	1967
55°	1589	1778	1954
60°	1518	1735	1947
65°	1415	1724	1969
70°	1304	1710	2028
75°	1177	1733	2133
80°	1018	1785	2005
85°	843	1497	1497



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.4	3.4
10°-20°	208.9	9.6
20°-30°	312.5	14.4
30°-40°	370.1	17.1
40°-50°	377.2	17.4
50°-60°	338.1	15.6
60°-70°	264.7	12.2
70°-80°	170.7	7.9
80°-90°	50.4	2.3
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°	594.8	27.5
0°-40°	964.9	44.5
0°-60°	1680.2	77.6
0°-90°	2166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2166.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	776	776	776	776	776	
5°	768	770	774	775	776	73
15°	731	735	741	747	748	206
25°	661	667	681	690	694	304
35°	566	573	592	610	616	354
45°	455	465	489	514	522	351
55°	339	350	379	405	416	304
65°	222	236	271	297	309	221
75°	113	130	167	195	205	121
85°	27	37	48	48	48	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	776.1	776.1	776.1	776.1	776.1
2.5°	771.1	773.1	777.2	778.2	778.2
5°	768.1	770.1	774.1	775.1	776.1
7.5°	763.0	764.0	769.1	771.1	772.1
10°	754.9	756.9	762.0	765.0	766.0
12.5°	743.8	746.8	752.9	756.9	758.0
15°	730.7	734.7	740.8	746.8	747.8
17.5°	716.5	720.6	728.6	735.7	737.7
20°	699.3	704.4	713.5	721.6	724.6
22.5°	682.2	686.2	697.3	707.4	710.5
25°	660.9	667.0	681.1	690.2	694.3
27.5°	638.7	645.8	659.9	672.1	676.1
30°	615.5	622.5	637.7	652.9	657.9
32.5°	591.2	599.3	617.5	632.6	637.7
35°	565.9	573.0	592.2	610.4	616.5
37.5°	539.7	545.7	568.0	587.2	593.2
40°	511.4	519.5	542.7	564.9	571.0
42.5°	483.1	492.2	515.4	539.7	545.7
45°	454.8	464.9	489.1	514.4	521.5
47.5°	427.5	435.6	462.9	487.1	497.2
50°	398.2	406.3	432.5	459.8	469.9
52.5°	367.9	379.0	407.3	433.5	445.7
55°	338.6	349.7	379.0	405.3	416.4
57.5°	311.3	320.4	350.7	378.0	389.1
60°	282.0	290.0	322.4	351.7	361.8
62.5°	250.6	262.8	296.1	323.4	335.5
65°	222.3	235.5	270.8	297.1	309.2
67.5°	196.1	208.2	242.5	270.8	284.0
70°	165.7	181.9	217.3	245.6	257.7
72.5°	141.5	155.6	192.0	220.3	233.4
75°	113.2	130.4	166.7	195.0	205.2
77.5°	89.9	107.1	141.5	163.7	168.8
80°	65.7	82.9	115.2	126.3	129.4
82.5°	44.5	60.6	82.9	85.9	86.9
85°	27.3	37.4	48.5	48.5	48.5
87.5°	13.1	15.2	17.2	16.2	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)