

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: P312756

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-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: P312756  
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: 22FCZ2-20HE-UNV-L83050-CP187-W2A-U-3500K  
Description: 2'X2' TROFFER LED MODULE, RIBBED 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**

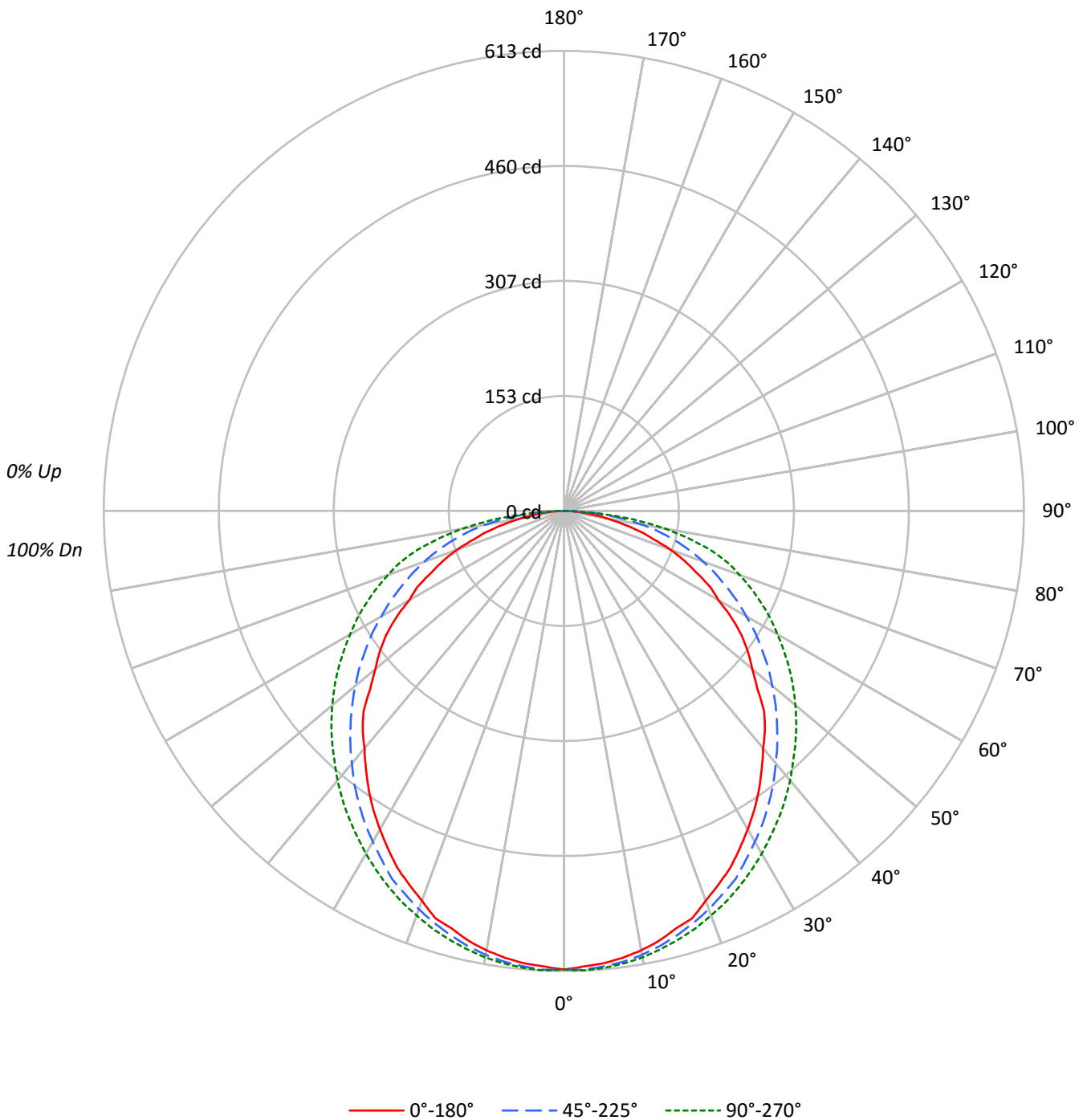
Lumens per Lamp: N/A  
Luminaire Lumens: 1821.0 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1644	1644	1644
5°	1634	1646	1650
10°	1624	1641	1650
15°	1605	1629	1646
20°	1582	1617	1642
25°	1558	1607	1641
30°	1522	1582	1638
35°	1489	1563	1641
40°	1451	1543	1647
45°	1436	1529	1662
50°	1372	1518	1686
55°	1358	1513	1721
60°	1280	1510	1769
65°	1243	1521	1848
70°	1194	1556	1961
75°	1088	1604	2112
80°	931	1661	2134
85°	753	1587	1831



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.8	3.2
10°-20°	164.9	9.1
20°-30°	248.2	13.6
30°-40°	297.9	16.4
40°-50°	311.4	17.1
50°-60°	290.2	15.9
60°-70°	238.0	13.1
70°-80°	160.4	8.8
80°-90°	52.2	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°	470.9	25.9
0°-40°	768.9	42.2
0°-60°	1370.4	75.3
0°-90°	1821.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1821.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	611	611	611	611	611	
5°	605	607	609	610	611	57
15°	576	580	585	590	591	163
25°	525	528	541	549	553	241
35°	453	459	476	492	499	283
45°	377	380	402	426	437	288
55°	289	295	322	353	367	256
65°	195	204	239	274	290	194
75°	105	116	154	189	203	110
85°	24	35	51	60	59	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	611.0	611.0	611.0	611.0	611.0
2.5°	607.5	609.2	611.8	612.7	612.7
5°	604.9	606.6	609.2	610.1	611.0
7.5°	600.5	602.2	605.7	607.5	608.3
10°	594.4	596.1	600.5	603.1	604.0
12.5°	586.6	588.3	593.5	597.0	597.9
15°	576.1	579.6	584.8	590.0	590.9
17.5°	569.1	568.3	575.2	581.3	583.1
20°	552.6	556.9	564.8	571.7	573.5
22.5°	538.6	542.1	552.6	560.4	563.9
25°	524.7	528.2	541.2	549.1	552.6
27.5°	507.2	512.5	524.7	536.0	540.4
30°	489.8	495.0	509.0	522.1	527.3
32.5°	472.4	478.5	493.3	507.2	513.3
35°	453.2	459.3	475.9	492.4	499.4
37.5°	433.2	441.0	458.4	476.7	484.6
40°	413.1	421.0	439.3	460.2	468.9
42.5°	396.6	400.0	421.0	443.6	452.3
45°	377.4	380.0	401.8	426.2	436.6
47.5°	349.5	359.1	382.6	409.6	420.1
50°	327.7	338.2	362.6	391.3	402.7
52.5°	309.4	316.4	343.4	372.2	385.2
55°	289.4	294.6	322.5	353.0	366.9
57.5°	265.0	274.5	302.4	333.8	347.8
60°	237.9	250.1	280.6	314.6	328.6
62.5°	220.5	227.5	260.6	294.6	310.3
65°	195.2	203.9	238.8	273.7	290.2
67.5°	174.3	183.0	218.8	253.6	270.2
70°	151.7	160.4	197.8	232.7	249.3
72.5°	125.5	137.7	176.9	211.8	229.2
75°	104.6	115.9	154.3	189.1	203.1
77.5°	81.1	95.9	131.6	160.4	170.8
80°	60.1	75.0	107.2	128.1	137.7
82.5°	41.0	55.8	80.2	95.9	101.1
85°	24.4	34.9	51.4	60.1	59.3
87.5°	11.3	14.8	20.9	20.9	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)