

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: P312941

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CA08-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: P312941  
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: 22FCZ2-29HE-UNV-L83050-S-CA08-W2A-U-3500K  
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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**

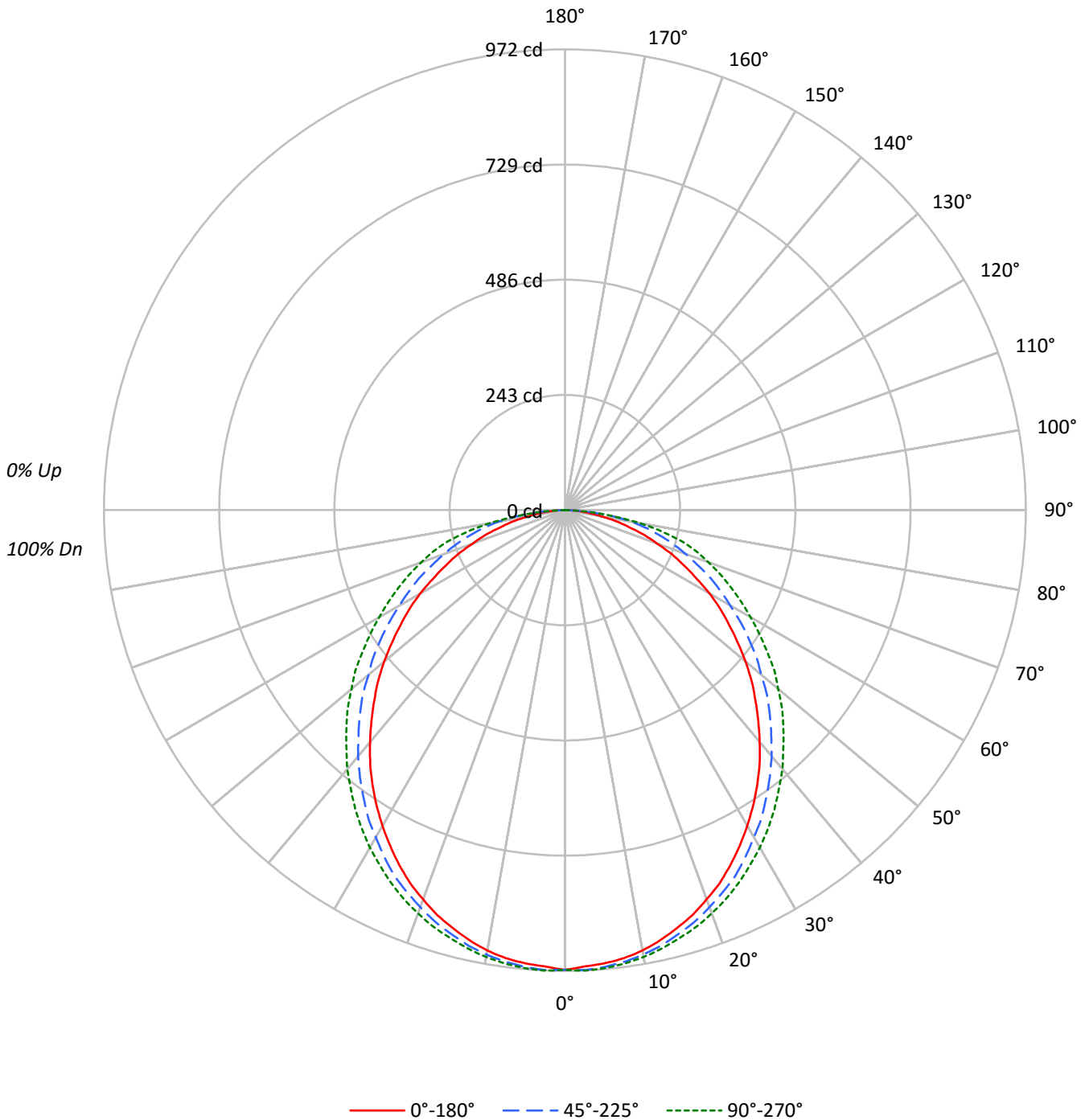
Lumens per Lamp: N/A  
Luminaire Lumens: 2707.0 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 22.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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



TEST NUMBER: P312941

CATALOG NUMBER: 22FCZ2-29HE-UNV-L83050-S-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P312941

CATALOG NUMBER: 22FCZ2-29HE-UNV-L83050-S-CA08-W2A-U-3500K

**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°	2610	2610	2610
5°	2593	2613	2620
10°	2578	2602	2616
15°	2544	2579	2604
20°	2503	2554	2593
25°	2453	2528	2576
30°	2390	2476	2555
35°	2324	2431	2531
40°	2245	2382	2507
45°	2163	2326	2480
50°	2083	2263	2459
55°	1985	2222	2441
60°	1897	2168	2434
65°	1769	2155	2461
70°	1629	2137	2534
75°	1471	2167	2666
80°	1272	2232	2506
85°	1053	1871	1871



TEST NUMBER: P312941

CATALOG NUMBER: 22FCZ2-29HE-UNV-L83050-S-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.7	3.4
10°-20°	261.1	9.6
20°-30°	390.6	14.4
30°-40°	462.6	17.1
40°-50°	471.4	17.4
50°-60°	422.5	15.6
60°-70°	330.8	12.2
70°-80°	213.3	7.9
80°-90°	63.0	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°	743.4	27.5
0°-40°	1205.9	44.5
0°-60°	2099.9	77.6
0°-90°	2707.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2707.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	970	970	970	970	970	
5°	960	962	968	969	970	91
15°	913	918	926	933	935	257
25°	826	834	851	863	868	380
35°	707	716	740	763	770	442
45°	568	581	611	643	652	439
55°	423	437	474	506	520	379
65°	278	294	338	371	386	276
75°	142	163	208	244	256	152
85°	34	47	61	61	61	40
90°	0	0	0	0	0	



TEST NUMBER: P312941

CATALOG NUMBER: 22FCZ2-29HE-UNV-L83050-S-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	970.0	970.0	970.0	970.0	970.0
2.5°	963.7	966.2	971.3	972.5	972.5
5°	959.9	962.4	967.5	968.7	970.0
7.5°	953.6	954.8	961.2	963.7	965.0
10°	943.5	946.0	952.3	956.1	957.4
12.5°	929.6	933.4	941.0	946.0	947.3
15°	913.2	918.2	925.8	933.4	934.6
17.5°	895.5	900.5	910.6	919.5	922.0
20°	874.0	880.3	891.7	901.8	905.6
22.5°	852.5	857.6	871.5	884.1	887.9
25°	826.0	833.6	851.3	862.6	867.7
27.5°	798.2	807.1	824.8	839.9	845.0
30°	769.2	778.0	797.0	815.9	822.2
32.5°	738.9	749.0	771.7	790.7	797.0
35°	707.3	716.1	740.1	762.9	770.4
37.5°	674.5	682.0	709.8	733.8	741.4
40°	639.1	649.2	678.2	706.0	713.6
42.5°	603.7	615.1	644.1	674.5	682.0
45°	568.4	581.0	611.3	642.9	651.7
47.5°	534.3	544.4	578.5	608.8	621.4
50°	497.6	507.7	540.6	574.7	587.3
52.5°	459.7	473.6	509.0	541.8	557.0
55°	423.1	437.0	473.6	506.5	520.4
57.5°	389.0	400.4	438.3	472.4	486.3
60°	352.4	362.5	402.9	439.5	452.2
62.5°	313.2	328.4	370.1	404.2	419.3
65°	277.9	294.3	338.5	371.3	386.5
67.5°	245.0	260.2	303.1	338.5	354.9
70°	207.1	227.3	271.6	306.9	322.1
72.5°	176.8	194.5	240.0	275.3	291.8
75°	141.5	162.9	208.4	243.8	256.4
77.5°	112.4	133.9	176.8	204.6	210.9
80°	82.1	103.6	144.0	157.9	161.7
82.5°	55.6	75.8	103.6	107.4	108.6
85°	34.1	46.7	60.6	60.6	60.6
87.5°	16.4	18.9	21.5	20.2	20.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)