

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: P308994

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P308994
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-L82765-S-CP187-W2A-U-5700K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 2641.0 lumens
Efficiency: N/A
Efficacy: 114.8 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

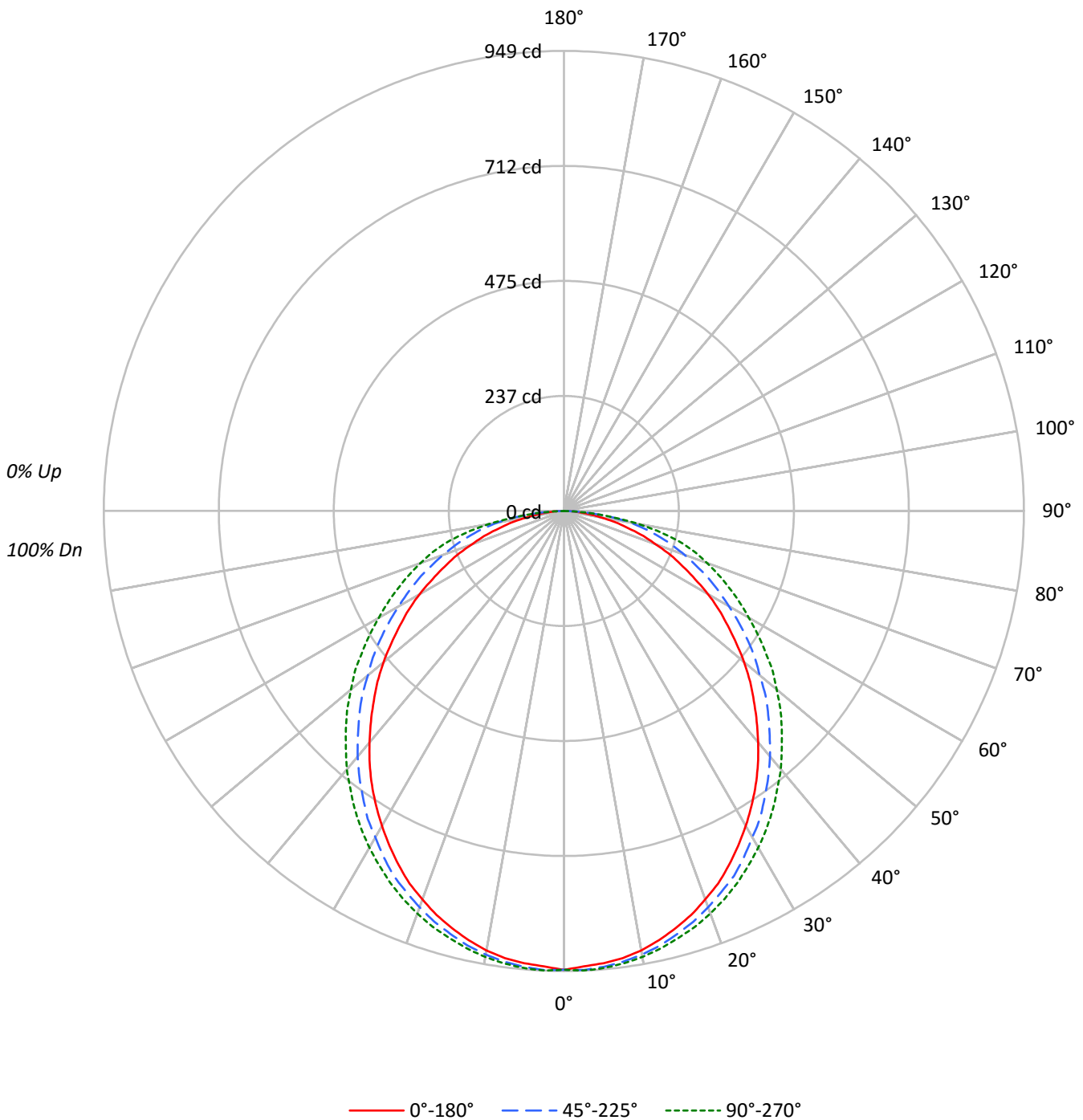
Input Watts (W): 23
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2547	2547	2547
5°	2530	2550	2556
10°	2515	2539	2552
15°	2482	2516	2540
20°	2442	2491	2530
25°	2393	2466	2513
30°	2332	2416	2493
35°	2267	2372	2469
40°	2190	2324	2446
45°	2110	2270	2420
50°	2033	2208	2399
55°	1937	2168	2382
60°	1850	2116	2374
65°	1726	2103	2401
70°	1590	2084	2472
75°	1435	2114	2600
80°	1241	2177	2444
85°	1028	1825	1825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.5	3.4
10°-20°	254.7	9.6
20°-30°	381.1	14.4
30°-40°	451.3	17.1
40°-50°	459.9	17.4
50°-60°	412.2	15.6
60°-70°	322.7	12.2
70°-80°	208.1	7.9
80°-90°	61.5	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°	725.3	27.5
0°-40°	1176.5	44.5
0°-60°	2048.7	77.6
0°-90°	2641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2641.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	946	946	946	946	946	
5°	936	939	944	945	946	89
15°	891	896	903	911	912	251
25°	806	813	830	842	846	371
35°	690	699	722	744	752	431
45°	554	567	596	627	636	428
55°	413	426	462	494	508	370
65°	271	287	330	362	377	269
75°	138	159	203	238	250	148
85°	33	46	59	59	59	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	946.4	946.4	946.4	946.4	946.4
2.5°	940.2	942.7	947.6	948.8	948.8
5°	936.5	939.0	943.9	945.1	946.4
7.5°	930.3	931.6	937.7	940.2	941.4
10°	920.5	922.9	929.1	932.8	934.0
12.5°	906.9	910.6	918.0	922.9	924.2
15°	890.9	895.8	903.2	910.6	911.9
17.5°	873.7	878.6	888.4	897.1	899.5
20°	852.7	858.9	870.0	879.8	883.5
22.5°	831.8	836.7	850.2	862.6	866.3
25°	805.9	813.3	830.5	841.6	846.5
27.5°	778.8	787.4	804.6	819.4	824.4
30°	750.4	759.1	777.5	796.0	802.2
32.5°	720.9	730.7	752.9	771.4	777.5
35°	690.0	698.7	722.1	744.3	751.7
37.5°	658.0	665.4	692.5	715.9	723.3
40°	623.5	633.4	661.7	688.8	696.2
42.5°	589.0	600.1	628.4	658.0	665.4
45°	554.5	566.8	596.4	627.2	635.8
47.5°	521.2	531.1	564.4	593.9	606.3
50°	485.5	495.4	527.4	560.7	573.0
52.5°	448.5	462.1	496.6	528.6	543.4
55°	412.8	426.4	462.1	494.1	507.7
57.5°	379.5	390.6	427.6	460.9	474.4
60°	343.8	353.7	393.1	428.8	441.1
62.5°	305.6	320.4	361.0	394.3	409.1
65°	271.1	287.1	330.2	362.3	377.1
67.5°	239.1	253.8	295.7	330.2	346.3
70°	202.1	221.8	264.9	299.4	314.2
72.5°	172.5	189.8	234.1	268.6	284.6
75°	138.0	159.0	203.3	237.8	250.1
77.5°	109.7	130.6	172.5	199.6	205.8
80°	80.1	101.0	140.5	154.0	157.7
82.5°	54.2	73.9	101.0	104.7	106.0
85°	33.3	45.6	59.1	59.1	59.1
87.5°	16.0	18.5	20.9	19.7	19.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)