

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: P308992

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-5000K**

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: P308992
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-5000K
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: 2609.0 lumens
Efficiency: N/A
Efficacy: 113.9 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

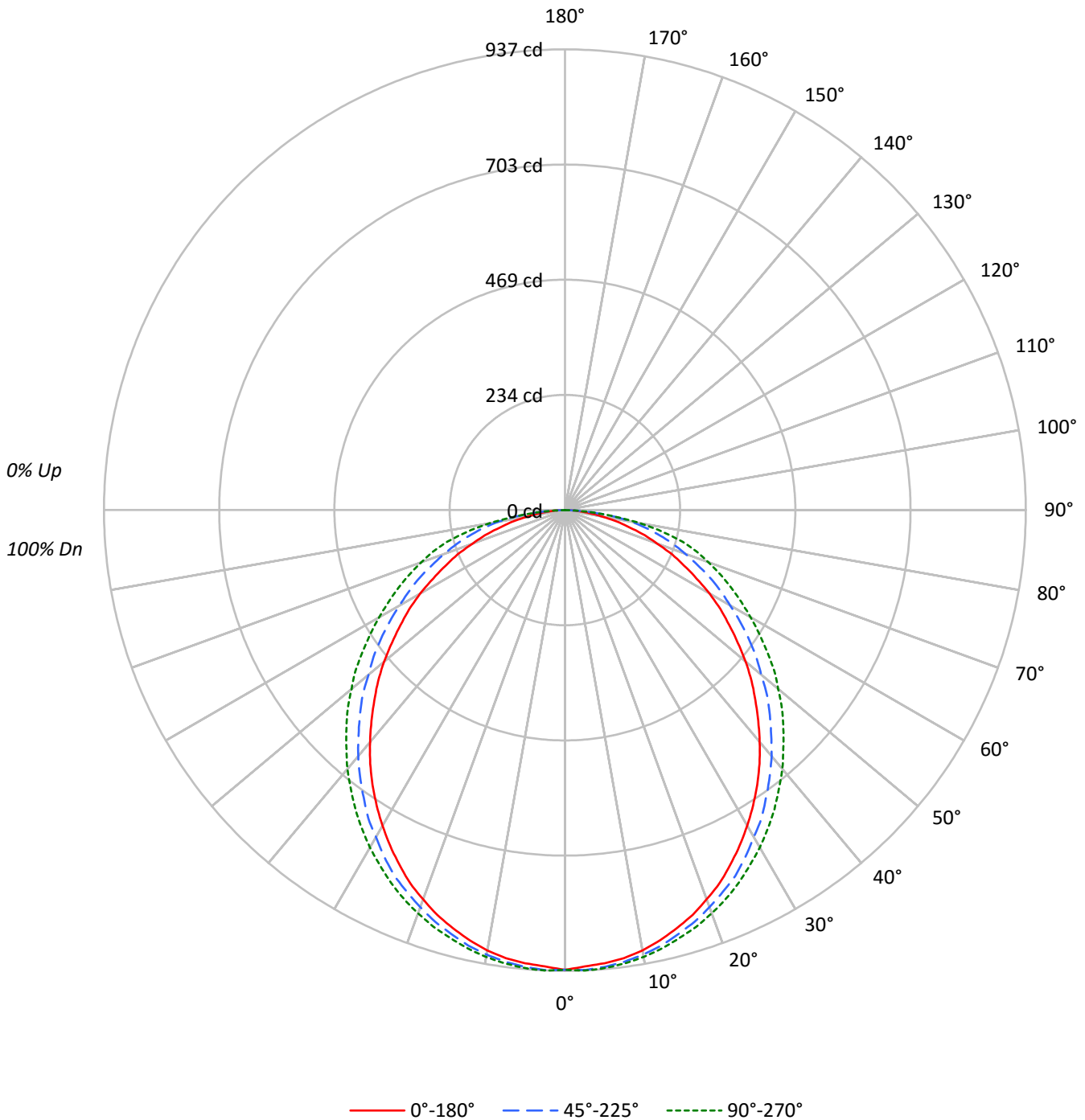
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2516	2516	2516
5°	2499	2519	2525
10°	2485	2508	2521
15°	2452	2486	2510
20°	2412	2461	2499
25°	2364	2436	2483
30°	2303	2387	2463
35°	2239	2343	2439
40°	2164	2296	2416
45°	2085	2242	2390
50°	2008	2181	2370
55°	1913	2142	2353
60°	1828	2090	2345
65°	1705	2077	2372
70°	1570	2059	2442
75°	1417	2089	2569
80°	1226	2151	2414
85°	1016	1803	1803



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.4	3.4
10°-20°	251.6	9.6
20°-30°	376.5	14.4
30°-40°	445.8	17.1
40°-50°	454.3	17.4
50°-60°	407.2	15.6
60°-70°	318.8	12.2
70°-80°	205.6	7.9
80°-90°	60.7	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°	716.5	27.5
0°-40°	1162.3	44.5
0°-60°	2023.9	77.6
0°-90°	2609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	935	935	935	935	935	
5°	925	928	932	934	935	88
15°	880	885	892	900	901	248
25°	796	803	820	831	836	366
35°	682	690	713	735	743	426
45°	548	560	589	620	628	423
55°	408	421	456	488	502	366
65°	268	284	326	358	372	266
75°	136	157	201	235	247	146
85°	33	45	58	58	58	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	934.9	934.9	934.9	934.9	934.9
2.5°	928.8	931.2	936.1	937.3	937.3
5°	925.1	927.6	932.5	933.7	934.9
7.5°	919.1	920.3	926.4	928.8	930.0
10°	909.3	911.8	917.8	921.5	922.7
12.5°	895.9	899.6	906.9	911.8	913.0
15°	880.1	885.0	892.3	899.6	900.8
17.5°	863.1	867.9	877.7	886.2	888.6
20°	842.4	848.5	859.4	869.2	872.8
22.5°	821.7	826.5	839.9	852.1	855.8
25°	796.1	803.4	820.5	831.4	836.3
27.5°	769.3	777.9	794.9	809.5	814.4
30°	741.3	749.9	768.1	786.4	792.5
32.5°	712.1	721.9	743.8	762.0	768.1
35°	681.7	690.2	713.3	735.2	742.6
37.5°	650.0	657.3	684.1	707.3	714.6
40°	616.0	625.7	653.7	680.5	687.8
42.5°	581.9	592.8	620.8	650.0	657.3
45°	547.8	560.0	589.2	619.6	628.1
47.5°	514.9	524.7	557.5	586.7	598.9
50°	479.6	489.4	521.0	553.9	566.0
52.5°	443.1	456.5	490.6	522.2	536.8
55°	407.8	421.2	456.5	488.1	501.5
57.5°	374.9	385.9	422.4	455.3	468.7
60°	339.6	349.4	388.3	423.6	435.8
62.5°	301.9	316.5	356.7	389.5	404.1
65°	267.8	283.6	326.2	357.9	372.5
67.5°	236.2	250.8	292.2	326.2	342.1
70°	199.6	219.1	261.7	295.8	310.4
72.5°	170.4	187.5	231.3	265.4	281.2
75°	136.3	157.0	200.9	234.9	247.1
77.5°	108.3	129.0	170.4	197.2	203.3
80°	79.1	99.8	138.8	152.2	155.8
82.5°	53.6	73.0	99.8	103.5	104.7
85°	32.9	45.0	58.4	58.4	58.4
87.5°	15.8	18.3	20.7	19.5	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)