

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: P308991

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-4500K**

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: P308991
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-4500K
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: 2573.0 lumens
Efficiency: N/A
Efficacy: 112.9 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

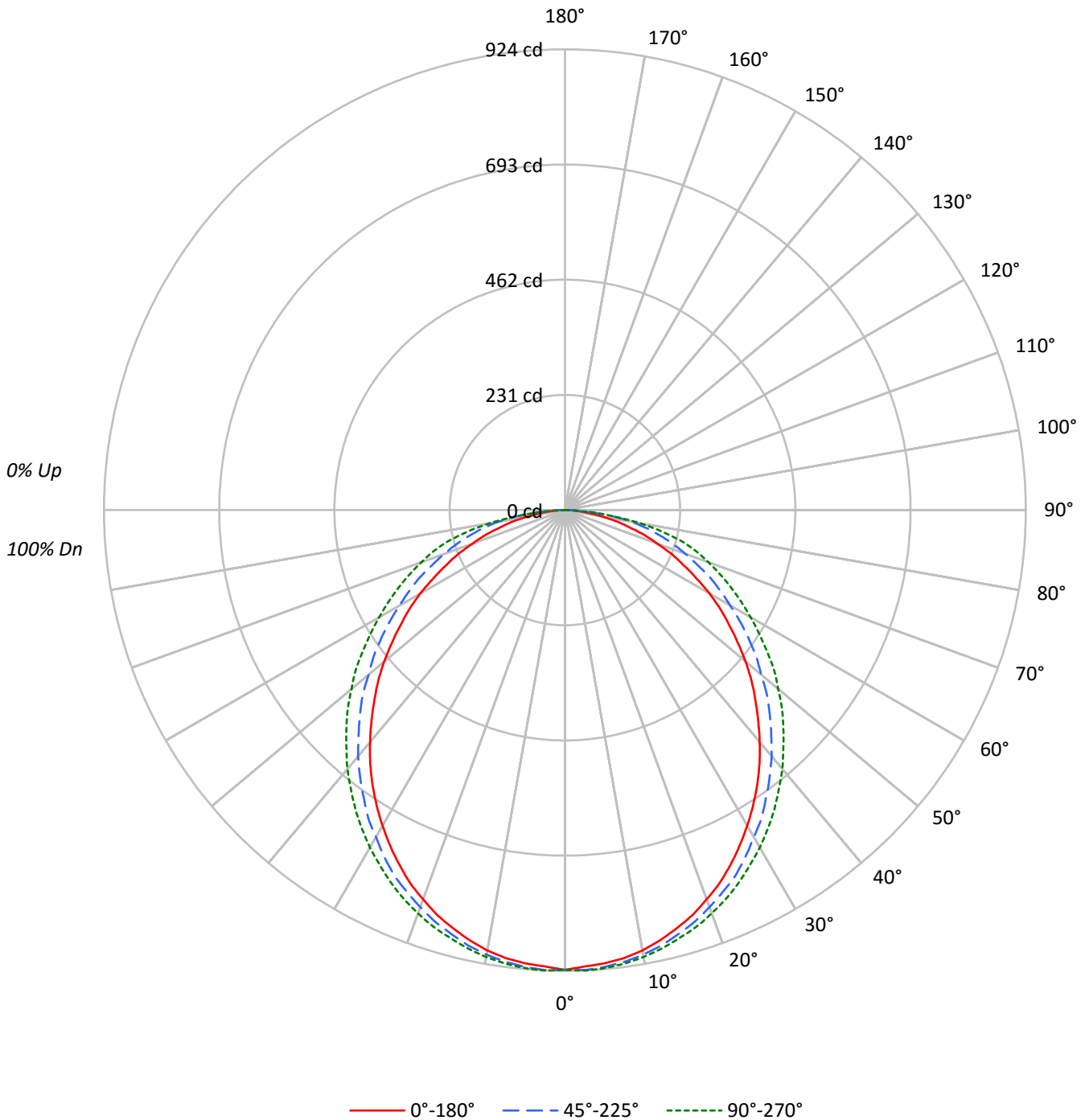
Input Watts (W): 22.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2481	2481	2481
5°	2465	2484	2491
10°	2450	2473	2487
15°	2418	2452	2475
20°	2379	2427	2465
25°	2331	2402	2449
30°	2272	2354	2428
35°	2209	2311	2406
40°	2134	2265	2383
45°	2056	2211	2358
50°	1980	2151	2337
55°	1887	2112	2320
60°	1802	2061	2313
65°	1682	2048	2339
70°	1549	2031	2408
75°	1398	2060	2534
80°	1209	2122	2382
85°	1000	1778	1778



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.2	3.4
10°-20°	248.1	9.6
20°-30°	371.3	14.4
30°-40°	439.7	17.1
40°-50°	448.1	17.4
50°-60°	401.6	15.6
60°-70°	314.4	12.2
70°-80°	202.8	7.9
80°-90°	59.9	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°	706.6	27.5
0°-40°	1146.3	44.5
0°-60°	1995.9	77.6
0°-90°	2573.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2573.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	922	922	922	922	922	
5°	912	915	920	921	922	87
15°	868	873	880	887	888	245
25°	785	792	809	820	825	361
35°	672	681	704	725	732	420
45°	540	552	581	611	620	417
55°	402	415	450	481	495	361
65°	264	280	322	353	367	262
75°	134	155	198	232	244	144
85°	32	44	58	58	58	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	922.0	922.0	922.0	922.0	922.0
2.5°	916.0	918.4	923.2	924.4	924.4
5°	912.4	914.8	919.6	920.8	922.0
7.5°	906.4	907.6	913.6	916.0	917.2
10°	896.8	899.2	905.2	908.8	910.0
12.5°	883.6	887.2	894.4	899.2	900.4
15°	868.0	872.8	880.0	887.2	888.4
17.5°	851.2	856.0	865.6	874.0	876.4
20°	830.7	836.8	847.6	857.2	860.8
22.5°	810.3	815.1	828.3	840.4	844.0
25°	785.1	792.3	809.1	819.9	824.7
27.5°	758.7	767.1	783.9	798.3	803.1
30°	731.1	739.5	757.5	775.5	781.5
32.5°	702.3	711.9	733.5	751.5	757.5
35°	672.3	680.7	703.5	725.1	732.3
37.5°	641.1	648.3	674.7	697.5	704.7
40°	607.5	617.1	644.7	671.1	678.3
42.5°	573.8	584.6	612.3	641.1	648.3
45°	540.2	552.2	581.0	611.1	619.5
47.5°	507.8	517.4	549.8	578.6	590.6
50°	473.0	482.6	513.8	546.2	558.2
52.5°	437.0	450.2	483.8	515.0	529.4
55°	402.2	415.4	450.2	481.4	494.6
57.5°	369.8	380.6	416.6	449.0	462.2
60°	334.9	344.5	383.0	417.8	429.8
62.5°	297.7	312.1	351.7	384.2	398.6
65°	264.1	279.7	321.7	352.9	367.4
67.5°	232.9	247.3	288.1	321.7	337.3
70°	196.9	216.1	258.1	291.7	306.1
72.5°	168.1	184.9	228.1	261.7	277.3
75°	134.5	154.9	198.1	231.7	243.7
77.5°	106.8	127.3	168.1	194.5	200.5
80°	78.0	98.4	136.9	150.1	153.7
82.5°	52.8	72.0	98.4	102.0	103.2
85°	32.4	44.4	57.6	57.6	57.6
87.5°	15.6	18.0	20.4	19.2	19.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)