

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: P312959

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-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: P312959
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-CP187-W2A-U-5000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 2685.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

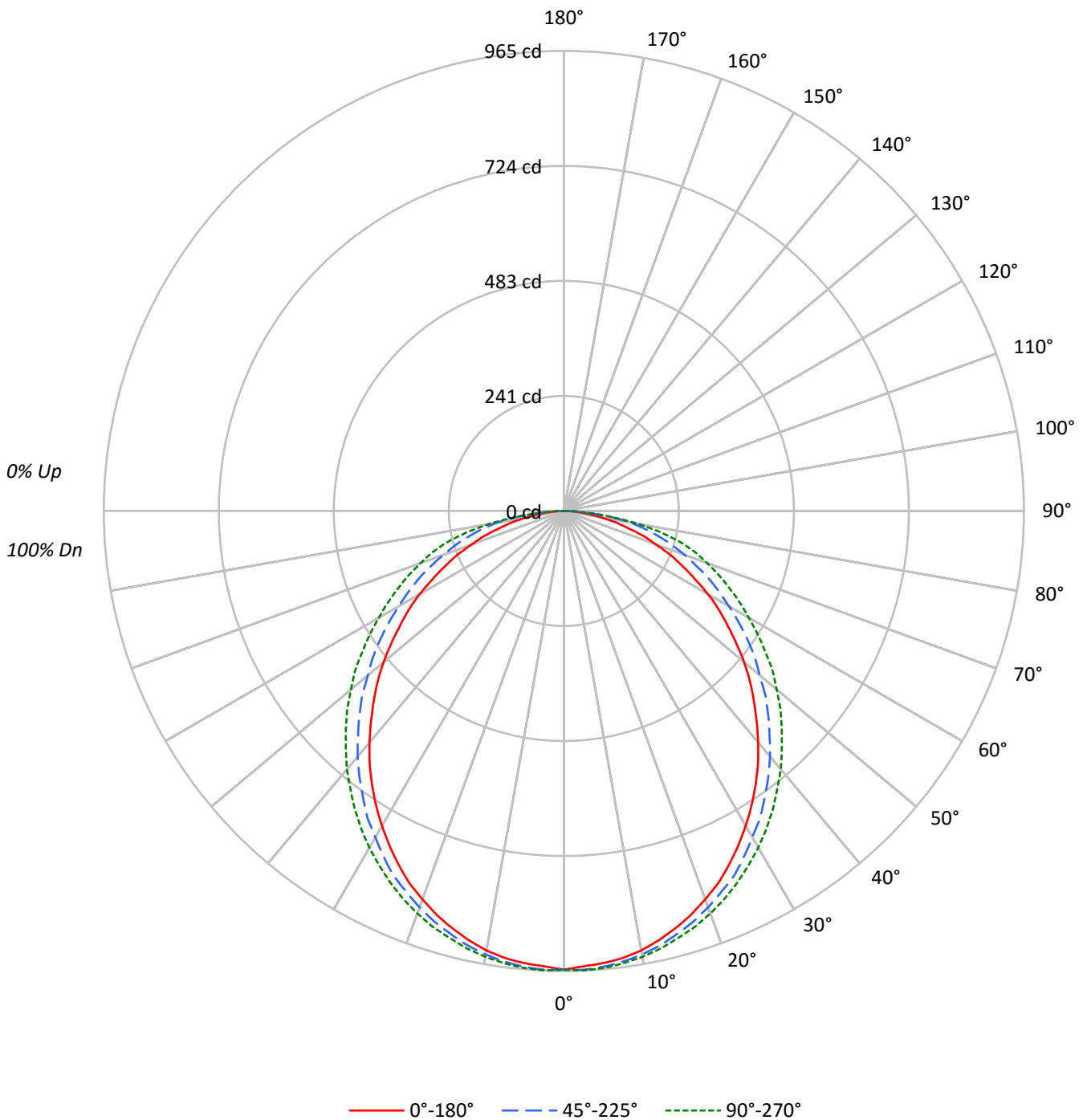
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2589	2589	2589
5°	2572	2592	2599
10°	2557	2581	2595
15°	2523	2558	2583
20°	2483	2533	2572
25°	2433	2507	2555
30°	2371	2456	2534
35°	2304	2412	2510
40°	2227	2363	2486
45°	2145	2307	2460
50°	2066	2245	2439
55°	1969	2204	2421
60°	1881	2151	2414
65°	1755	2138	2441
70°	1617	2119	2514
75°	1459	2149	2644
80°	1261	2213	2486
85°	1044	1856	1856



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.0	3.4
10°-20°	258.9	9.6
20°-30°	387.4	14.4
30°-40°	458.8	17.1
40°-50°	467.6	17.4
50°-60°	419.1	15.6
60°-70°	328.1	12.2
70°-80°	211.6	7.9
80°-90°	62.5	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°	737.3	27.5
0°-40°	1196.1	44.5
0°-60°	2082.8	77.6
0°-90°	2685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2685.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	962	962	962	962	962	
5°	952	955	960	961	962	90
15°	906	911	918	926	927	255
25°	819	827	844	856	861	377
35°	702	710	734	757	764	438
45°	564	576	606	638	646	435
55°	420	434	470	502	516	376
65°	276	292	336	368	383	274
75°	140	162	207	242	254	150
85°	34	46	60	60	60	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	962.1	962.1	962.1	962.1	962.1
2.5°	955.9	958.4	963.4	964.6	964.6
5°	952.1	954.6	959.6	960.9	962.1
7.5°	945.8	947.1	953.3	955.9	957.1
10°	935.8	938.3	944.6	948.3	949.6
12.5°	922.0	925.8	933.3	938.3	939.6
15°	905.7	910.8	918.3	925.8	927.0
17.5°	888.2	893.2	903.2	912.0	914.5
20°	866.9	873.2	884.4	894.5	898.2
22.5°	845.6	850.6	864.4	876.9	880.7
25°	819.3	826.8	844.4	855.6	860.6
27.5°	791.7	800.5	818.1	833.1	838.1
30°	762.9	771.7	790.5	809.3	815.5
32.5°	732.9	742.9	765.4	784.2	790.5
35°	701.5	710.3	734.1	756.7	764.2
37.5°	669.0	676.5	704.1	727.9	735.4
40°	633.9	643.9	672.7	700.3	707.8
42.5°	598.8	610.1	638.9	669.0	676.5
45°	563.7	576.3	606.3	637.7	646.4
47.5°	529.9	539.9	573.8	603.8	616.4
50°	493.6	503.6	536.2	570.0	582.5
52.5°	456.0	469.8	504.9	537.4	552.5
55°	419.7	433.5	469.8	502.4	516.1
57.5°	385.8	397.1	434.7	468.5	482.3
60°	349.5	359.5	399.6	436.0	448.5
62.5°	310.7	325.7	367.1	400.9	415.9
65°	275.6	291.9	335.7	368.3	383.3
67.5°	243.0	258.1	300.7	335.7	352.0
70°	205.5	225.5	269.3	304.4	319.5
72.5°	175.4	192.9	238.0	273.1	289.4
75°	140.3	161.6	206.7	241.8	254.3
77.5°	111.5	132.8	175.4	202.9	209.2
80°	81.4	102.7	142.8	156.6	160.4
82.5°	55.1	75.2	102.7	106.5	107.7
85°	33.8	46.4	60.1	60.1	60.1
87.5°	16.3	18.8	21.3	20.0	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)