

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: P312953

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CP125-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: P312953
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-CP125-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 4500K 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: 2804.0 lumens
Efficiency: N/A
Efficacy: 119.3 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

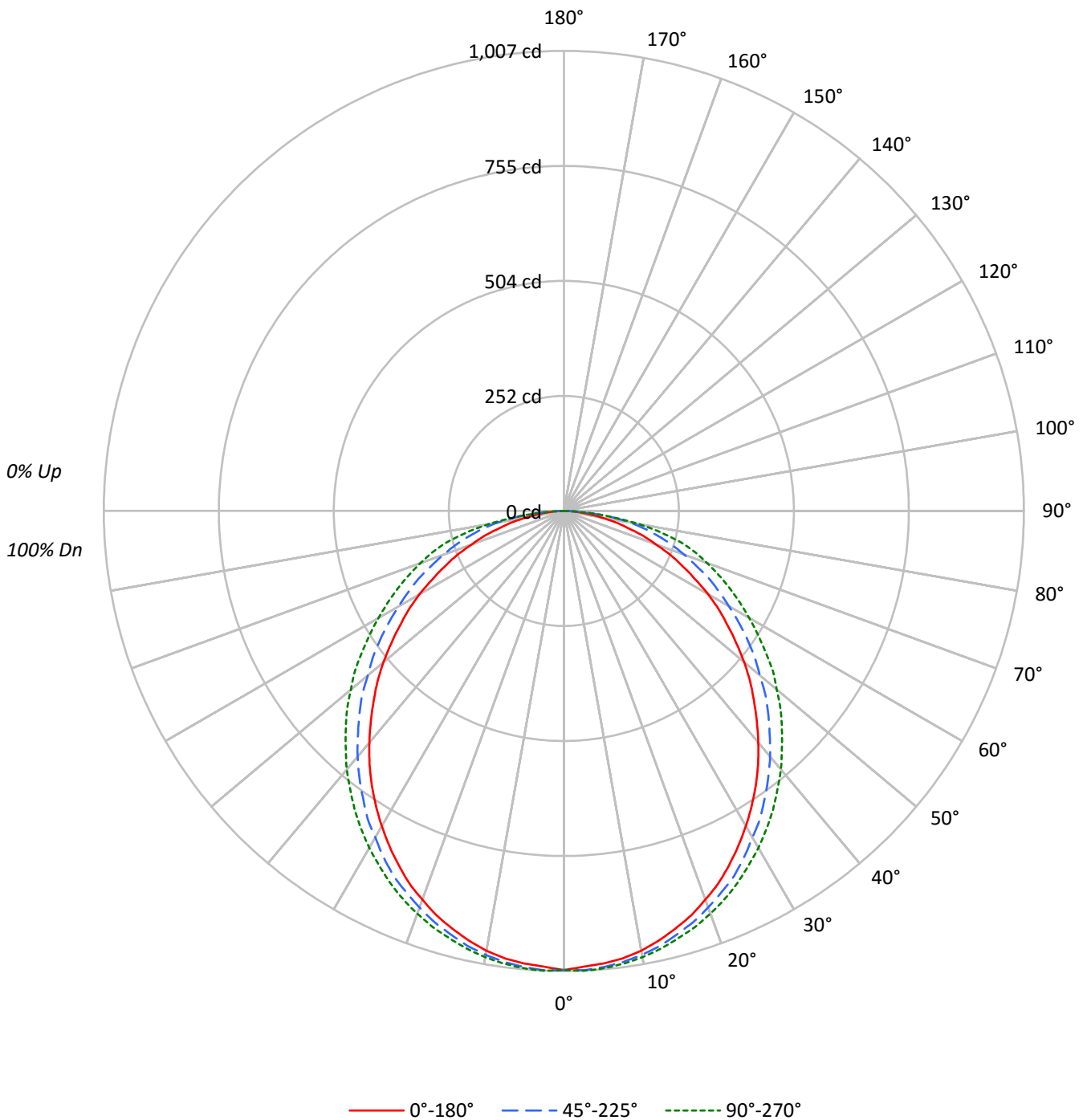
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2704	2704	2704
5°	2686	2707	2714
10°	2670	2695	2710
15°	2635	2672	2697
20°	2592	2645	2686
25°	2540	2618	2669
30°	2476	2565	2646
35°	2407	2519	2622
40°	2325	2468	2597
45°	2240	2410	2569
50°	2158	2344	2547
55°	2056	2302	2529
60°	1964	2246	2521
65°	1833	2232	2549
70°	1688	2213	2625
75°	1523	2245	2761
80°	1317	2311	2596
85°	1090	1939	1939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.0	3.4
10°-20°	270.4	9.6
20°-30°	404.6	14.4
30°-40°	479.1	17.1
40°-50°	488.3	17.4
50°-60°	437.7	15.6
60°-70°	342.6	12.2
70°-80°	221.0	7.9
80°-90°	65.3	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°	770.0	27.5
0°-40°	1249.2	44.5
0°-60°	2175.1	77.6
0°-90°	2804.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2804.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	994	997	1002	1004	1005	94
15°	946	951	959	967	968	267
25°	856	864	882	894	899	394
35°	733	742	767	790	798	458
45°	589	602	633	666	675	455
55°	438	453	491	525	539	393
65°	288	305	351	385	400	286
75°	146	169	216	252	266	157
85°	35	48	63	63	63	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1004.8	1004.8	1004.8	1004.8	1004.8
2.5°	998.2	1000.8	1006.1	1007.4	1007.4
5°	994.3	996.9	1002.1	1003.5	1004.8
7.5°	987.8	989.1	995.6	998.2	999.5
10°	977.3	979.9	986.4	990.4	991.7
12.5°	962.9	966.8	974.7	979.9	981.2
15°	945.9	951.1	959.0	966.8	968.1
17.5°	927.6	932.8	943.3	952.4	955.0
20°	905.3	911.9	923.6	934.1	938.0
22.5°	883.1	888.3	902.7	915.8	919.7
25°	855.6	863.5	881.8	893.6	898.8
27.5°	826.8	836.0	854.3	870.0	875.2
30°	796.7	805.9	825.5	845.2	851.7
32.5°	765.3	775.8	799.4	819.0	825.5
35°	732.6	741.8	766.7	790.2	798.1
37.5°	698.6	706.5	735.3	760.1	768.0
40°	662.0	672.5	702.5	731.3	739.2
42.5°	625.4	637.1	667.2	698.6	706.5
45°	588.7	601.8	633.2	665.9	675.1
47.5°	553.4	563.9	599.2	630.6	643.7
50°	515.5	525.9	559.9	595.3	608.4
52.5°	476.2	490.6	527.2	561.3	577.0
55°	438.3	452.7	490.6	524.6	539.0
57.5°	403.0	414.7	454.0	489.3	503.7
60°	365.0	375.5	417.3	455.3	468.4
62.5°	324.5	340.2	383.3	418.7	434.3
65°	287.8	304.8	350.6	384.6	400.3
67.5°	253.8	269.5	314.0	350.6	367.6
70°	214.6	235.5	281.3	317.9	333.6
72.5°	183.2	201.5	248.6	285.2	302.2
75°	146.5	168.8	215.9	252.5	265.6
77.5°	116.4	138.7	183.2	211.9	218.5
80°	85.0	107.3	149.1	163.5	167.5
82.5°	57.6	78.5	107.3	111.2	112.5
85°	35.3	48.4	62.8	62.8	62.8
87.5°	17.0	19.6	22.2	20.9	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)