

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: P313087

Luminaire Tested: **24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-4000K**

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: P313087
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 4000K 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: 2099.0 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

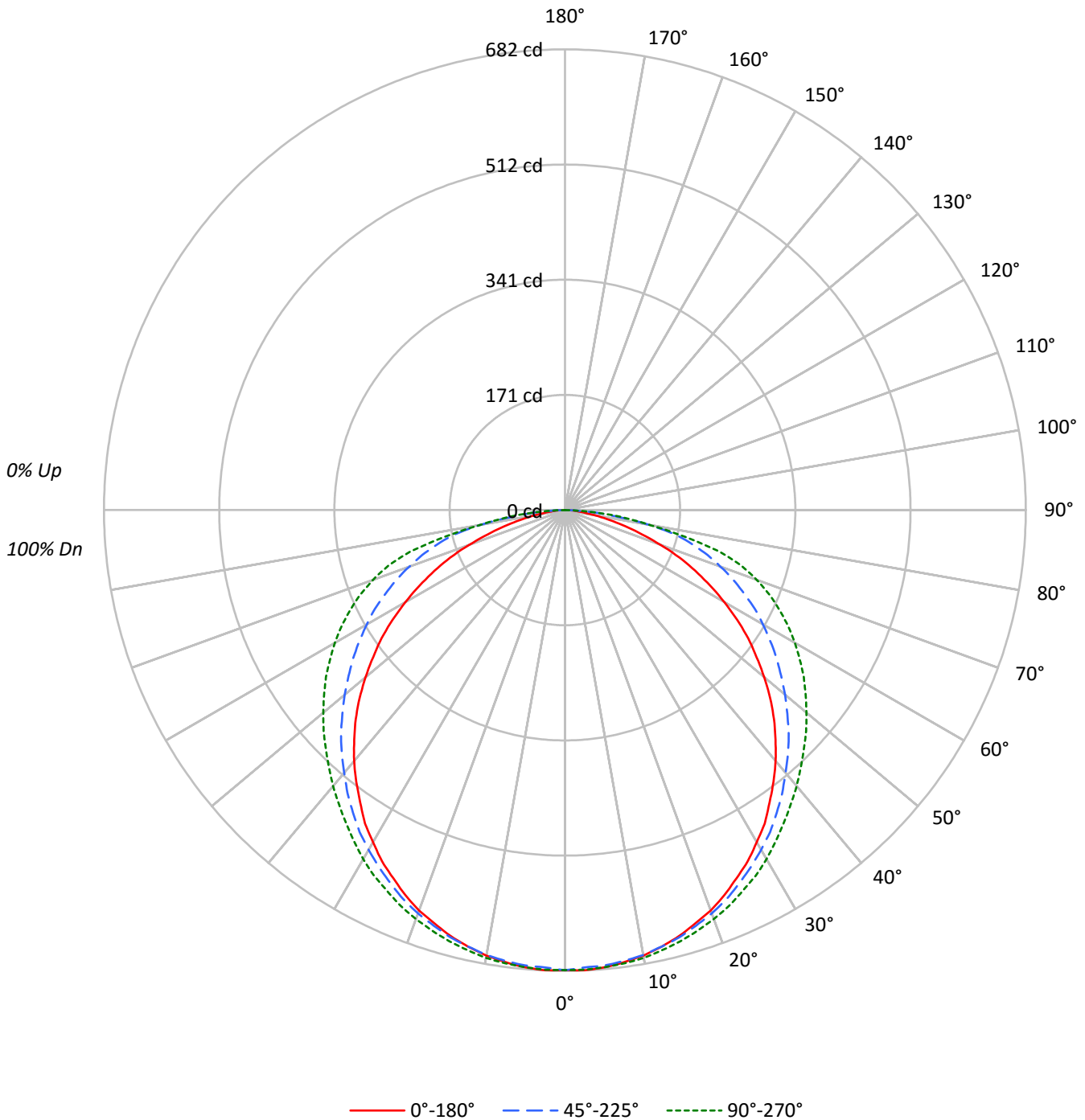
Input Watts (W): 23.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313087

CATALOG NUMBER: 24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P313087

CATALOG NUMBER: 24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-4000K

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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	916	916	916
5°	917	914	917
10°	915	914	920
15°	909	912	920
20°	903	910	922
25°	892	905	924
30°	882	902	927
35°	867	898	928
40°	852	892	937
45°	833	891	951
50°	806	890	977
55°	777	897	1012
60°	733	910	1057
65°	677	932	1116
70°	591	965	1189
75°	480	1014	1229
80°	354	994	994
85°	272	733	827



TEST NUMBER: P313087

CATALOG NUMBER: 24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.5	3.1
10°-20°	185.3	8.8
20°-30°	282.0	13.4
30°-40°	342.5	16.3
40°-50°	361.8	17.2
50°-60°	341.4	16.3
60°-70°	283.9	13.5
70°-80°	186.7	8.9
80°-90°	50.9	2.4
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°	531.8	25.3
0°-40°	874.3	41.7
0°-60°	1577.5	75.2
0°-90°	2099.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2099.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	681	681	681	681	681	
5°	679	679	677	679	679	65
15°	653	654	655	661	661	184
25°	601	605	610	620	622	277
35°	528	534	547	561	565	331
45°	438	446	468	491	500	337
55°	331	345	382	418	432	295
65°	213	237	293	336	351	210
75°	92	134	195	231	236	99
85°	18	39	48	53	54	22
90°	0	0	0	0	0	



TEST NUMBER: P313087

CATALOG NUMBER: 24FCZ2-30-UNV-L83050-HRP-CP250-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	681.0	681.0	681.0	681.0	681.0
2.5°	681.9	681.0	677.5	681.0	681.0
5°	679.3	679.3	676.6	679.3	679.3
7.5°	674.9	674.9	673.1	676.6	676.6
10°	669.6	669.6	668.7	673.1	673.1
12.5°	661.7	662.6	661.7	667.0	667.0
15°	652.9	653.8	654.7	660.8	660.8
17.5°	641.5	643.2	645.0	652.0	652.9
20°	630.9	631.8	635.3	643.2	644.1
22.5°	616.9	619.5	623.9	631.8	634.4
25°	601.1	604.6	609.8	620.4	622.1
27.5°	586.1	588.8	595.8	607.2	610.7
30°	567.7	572.1	580.8	592.3	596.7
32.5°	550.1	554.5	565.0	577.3	580.8
35°	528.1	534.3	546.6	560.6	565.0
37.5°	507.0	513.2	528.1	543.9	549.2
40°	485.1	492.1	507.9	526.4	533.4
42.5°	461.3	471.0	488.6	508.8	516.7
45°	437.6	446.4	468.4	491.2	500.0
47.5°	412.1	422.7	446.4	473.6	484.2
50°	384.9	398.1	425.3	455.2	466.6
52.5°	357.6	372.6	403.3	436.7	449.0
55°	331.3	345.3	382.3	418.3	431.5
57.5°	302.3	319.9	360.3	398.9	412.1
60°	272.4	291.7	338.3	378.7	392.8
62.5°	242.5	264.5	317.2	357.6	372.6
65°	212.7	237.3	292.6	335.7	350.6
67.5°	183.7	210.9	269.8	312.8	327.8
70°	150.3	184.5	245.2	287.3	302.3
72.5°	119.5	159.1	221.4	261.0	274.2
75°	92.3	134.4	195.1	231.1	236.4
77.5°	67.7	109.8	167.8	180.1	181.0
80°	45.7	87.9	128.3	126.5	128.3
82.5°	29.9	65.9	80.8	90.5	91.4
85°	17.6	38.7	47.5	52.7	53.6
87.5°	8.8	13.2	16.7	17.6	19.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)