

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: P309899

Luminaire Tested: **24FCZ2-30-UNV-L82765-RDP-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: P309899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-L82765-RDP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1728.0 lumens
Efficiency: N/A
Efficacy: 72.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

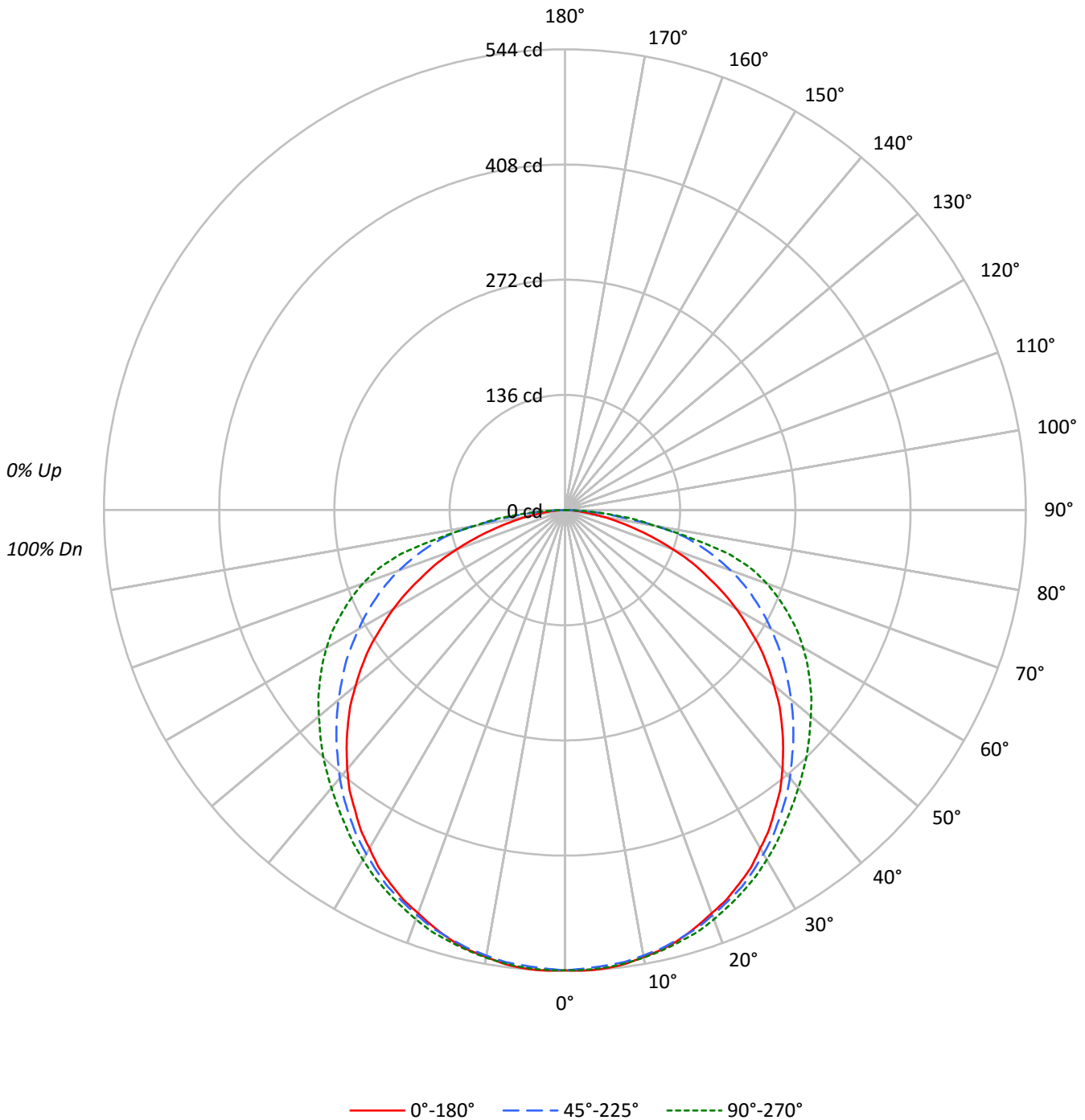
Input Watts (W): 23.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	731	731	731
5°	734	729	733
10°	732	730	733
15°	731	729	734
20°	725	729	736
25°	723	730	738
30°	716	728	740
35°	710	726	743
40°	702	726	753
45°	690	726	770
50°	675	730	793
55°	658	742	828
60°	630	756	874
65°	589	783	928
70°	536	819	998
75°	454	865	1043
80°	359	870	844
85°	264	662	741



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	3.0
10°-20°	148.4	8.6
20°-30°	226.9	13.1
30°-40°	277.3	16.0
40°-50°	295.6	17.1
50°-60°	282.6	16.4
60°-70°	239.4	13.9
70°-80°	160.9	9.3
80°-90°	45.4	2.6
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°	426.8	24.7
0°-40°	704.1	40.7
0°-60°	1282.3	74.2
0°-90°	1728.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1728.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	543	543	543	543	543	
5°	543	542	540	542	542	52
15°	525	525	524	528	527	148
25°	487	489	492	496	497	224
35°	432	435	442	451	453	271
45°	363	369	381	398	405	280
55°	280	291	316	341	353	250
65°	185	204	246	279	291	184
75°	87	119	166	195	201	94
85°	17	35	43	46	48	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	543.4	543.4	543.4	543.4	543.4
2.5°	544.3	544.3	541.7	543.4	543.4
5°	543.4	542.5	540.0	542.5	542.5
7.5°	540.8	540.0	538.3	540.8	540.0
10°	535.7	535.7	534.0	536.5	536.5
12.5°	531.4	530.6	529.7	533.1	532.3
15°	524.6	524.6	523.7	528.0	527.1
17.5°	516.0	516.8	517.7	521.1	522.0
20°	506.6	508.3	509.1	514.3	514.3
22.5°	498.0	498.8	500.6	505.7	505.7
25°	486.8	488.6	492.0	496.3	497.1
27.5°	475.7	476.6	480.8	486.8	487.7
30°	461.1	463.7	468.8	475.7	476.6
32.5°	448.3	450.8	456.8	463.7	465.4
35°	432.0	435.4	442.3	450.8	452.6
37.5°	417.4	420.0	428.6	438.0	440.6
40°	399.4	404.6	413.1	424.3	428.6
42.5°	381.4	386.6	396.8	411.4	416.6
45°	362.6	368.6	381.4	397.7	404.6
47.5°	343.7	350.6	365.1	384.0	391.7
50°	322.3	330.8	348.8	370.3	378.8
52.5°	301.7	312.0	331.7	355.7	366.8
55°	280.3	290.6	316.3	341.1	353.1
57.5°	256.3	270.0	298.3	326.6	339.4
60°	234.0	246.8	281.1	312.0	324.8
62.5°	210.0	227.1	264.0	296.6	309.4
65°	185.1	204.0	246.0	278.6	291.4
67.5°	162.9	183.4	228.0	260.6	273.4
70°	136.3	162.0	208.3	240.8	253.7
72.5°	111.4	139.7	187.7	219.4	231.4
75°	87.4	119.1	166.3	194.6	200.6
77.5°	65.1	98.6	144.0	156.0	151.7
80°	46.3	78.9	112.3	106.3	108.9
82.5°	30.0	60.0	69.4	78.9	81.4
85°	17.1	35.1	42.9	46.3	48.0
87.5°	7.7	12.9	17.1	17.1	16.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)