

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: P313513

Luminaire Tested: **24FCZ2-35-UNV-L83050-RDP-CP250-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: P313513
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: 24FCZ2-35-UNV-L83050-RDP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" 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: 2152.0 lumens
Efficiency: N/A
Efficacy: 73.2 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

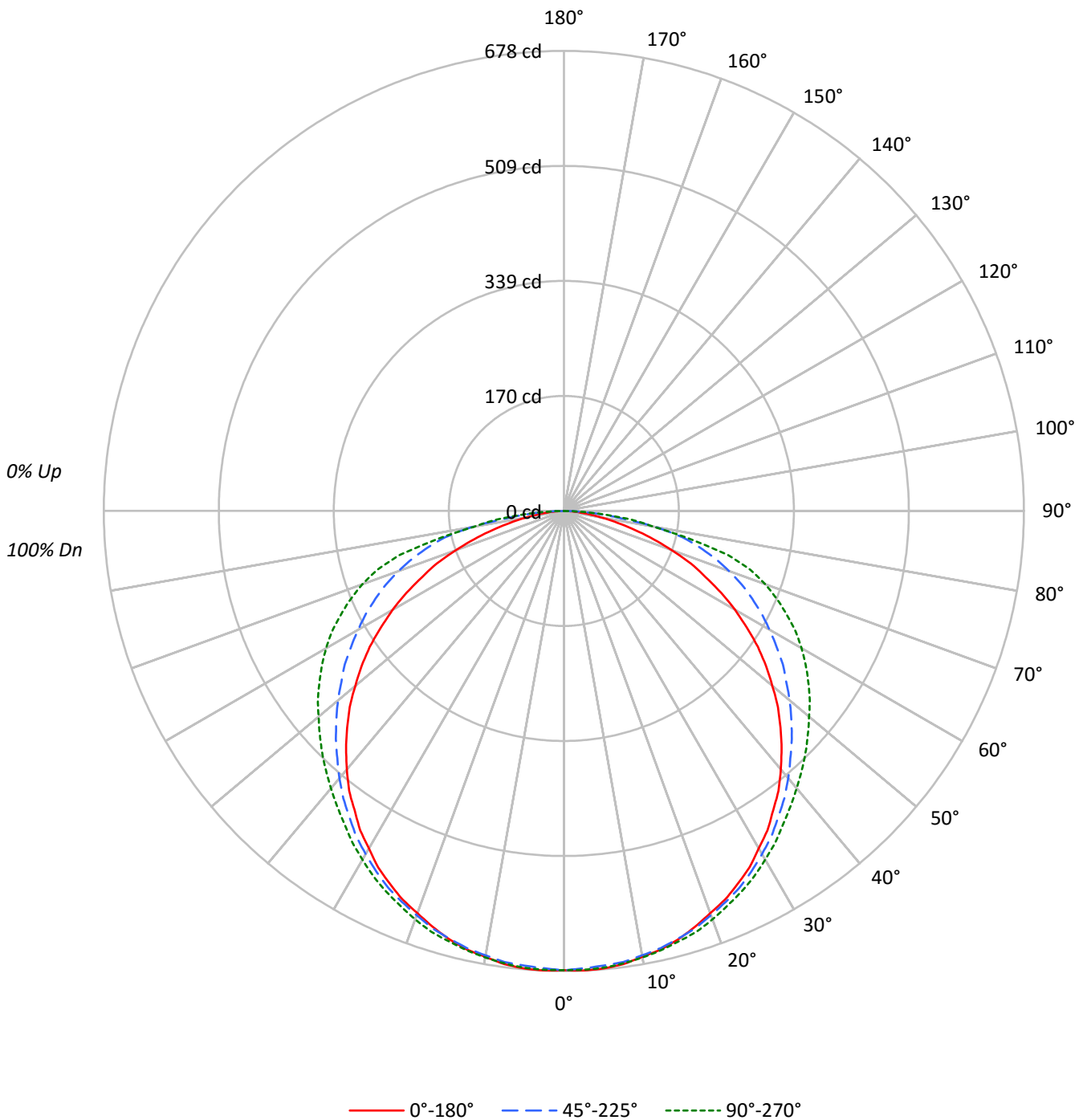
Input Watts (W): 29.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	910	910	910
5°	914	908	913
10°	911	909	913
15°	910	908	914
20°	903	908	917
25°	900	910	919
30°	892	907	922
35°	884	905	926
40°	874	904	937
45°	859	904	959
50°	840	909	988
55°	819	924	1032
60°	784	942	1089
65°	734	975	1155
70°	668	1020	1243
75°	566	1077	1299
80°	446	1083	1051
85°	329	824	923



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.2	3.0
10°-20°	184.8	8.6
20°-30°	282.5	13.1
30°-40°	345.4	16.0
40°-50°	368.1	17.1
50°-60°	352.0	16.4
60°-70°	298.1	13.9
70°-80°	200.4	9.3
80°-90°	56.5	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°	531.5	24.7
0°-40°	876.9	40.7
0°-60°	1596.9	74.2
0°-90°	2152.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2152.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	677	677	677	677	677	
5°	677	676	672	676	676	64
15°	653	653	652	658	656	184
25°	606	608	613	618	619	279
35°	538	542	551	562	564	337
45°	452	459	475	495	504	348
55°	349	362	394	425	440	311
65°	231	254	306	347	363	229
75°	109	148	207	242	250	117
85°	21	44	53	58	60	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	676.7	676.7	676.7	676.7	676.7
2.5°	677.8	677.8	674.6	676.7	676.7
5°	676.7	675.7	672.5	675.7	675.7
7.5°	673.5	672.5	670.3	673.5	672.5
10°	667.1	667.1	665.0	668.2	668.2
12.5°	661.8	660.7	659.7	663.9	662.9
15°	653.3	653.3	652.2	657.5	656.5
17.5°	642.6	643.7	644.7	649.0	650.1
20°	630.8	633.0	634.0	640.5	640.5
22.5°	620.2	621.2	623.4	629.8	629.8
25°	606.3	608.4	612.7	618.0	619.1
27.5°	592.4	593.5	598.8	606.3	607.4
30°	574.3	577.5	583.9	592.4	593.5
32.5°	558.3	561.5	568.9	577.5	579.6
35°	538.0	542.2	550.8	561.5	563.6
37.5°	519.8	523.0	533.7	545.5	548.7
40°	497.4	503.8	514.5	528.4	533.7
42.5°	475.0	481.4	494.2	512.4	518.8
45°	451.5	459.0	475.0	495.3	503.8
47.5°	428.0	436.6	454.7	478.2	487.8
50°	401.3	412.0	434.4	461.1	471.8
52.5°	375.7	388.5	413.1	443.0	456.9
55°	349.0	361.9	393.9	424.8	439.8
57.5°	319.2	336.2	371.5	406.7	422.7
60°	291.4	307.4	350.1	388.5	404.6
62.5°	261.5	282.9	328.8	369.3	385.3
65°	230.6	254.0	306.3	346.9	362.9
67.5°	202.8	228.4	283.9	324.5	340.5
70°	169.7	201.7	259.4	299.9	316.0
72.5°	138.8	174.0	233.8	273.3	288.2
75°	108.9	148.4	207.1	242.3	249.8
77.5°	81.1	122.8	179.3	194.3	188.9
80°	57.6	98.2	139.8	132.4	135.6
82.5°	37.4	74.7	86.5	98.2	101.4
85°	21.3	43.8	53.4	57.6	59.8
87.5°	9.6	16.0	21.3	21.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)