

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: P313435

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-RDP-CP250-W2A-U-3000K**

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: P313435
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: 24FCZ2-30HE-UNV-L83050-RDP-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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: 1656.0 lumens
Efficiency: N/A
Efficacy: 78.5 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

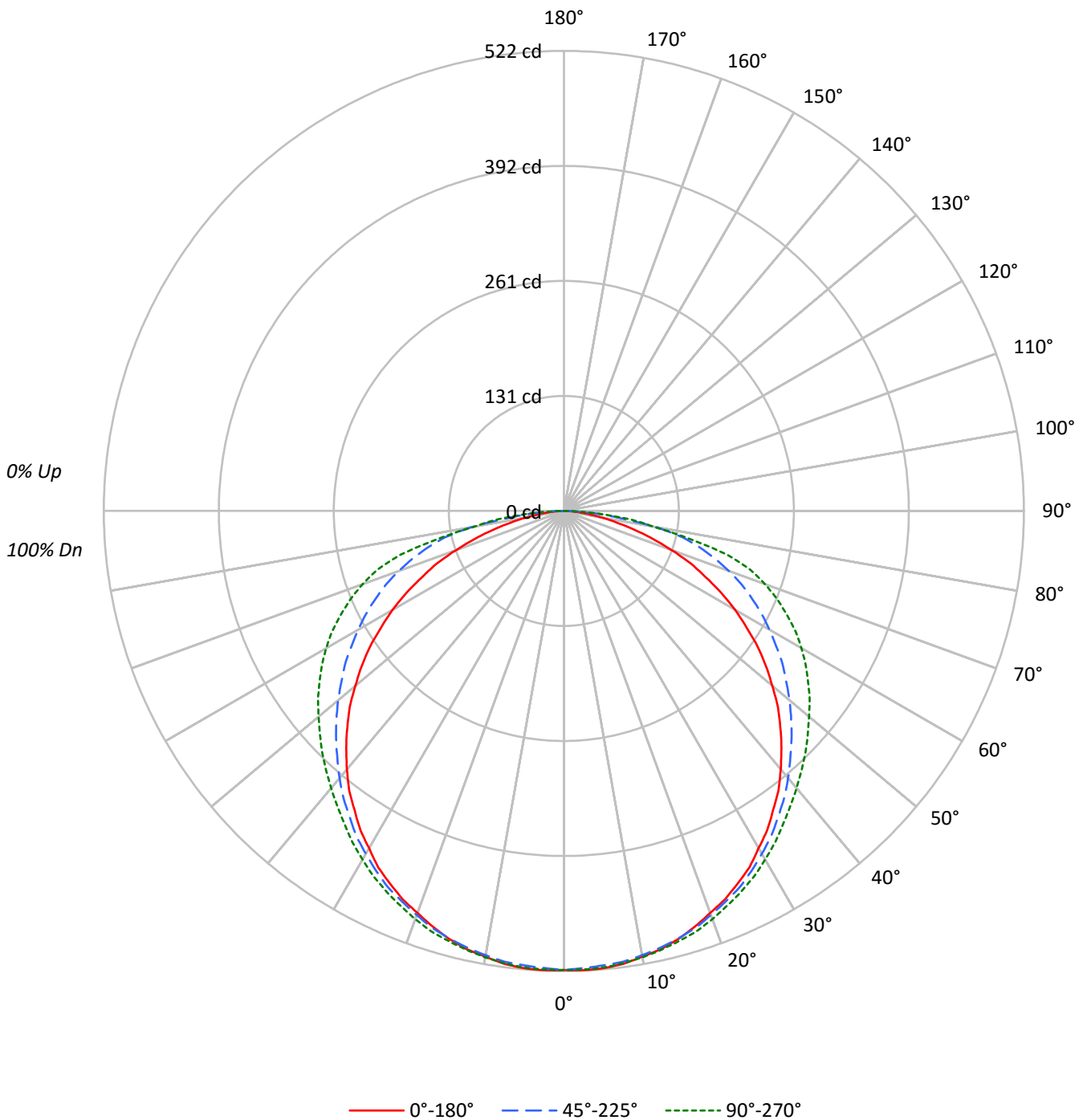
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	701	701	701
5°	703	699	702
10°	701	699	703
15°	700	699	704
20°	695	699	706
25°	693	700	707
30°	687	698	710
35°	680	696	712
40°	672	695	721
45°	661	695	738
50°	646	700	760
55°	630	711	794
60°	603	725	838
65°	565	750	889
70°	514	785	956
75°	436	829	999
80°	344	834	808
85°	253	634	710



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.4	3.0
10°-20°	142.2	8.6
20°-30°	217.4	13.1
30°-40°	265.8	16.0
40°-50°	283.3	17.1
50°-60°	270.8	16.4
60°-70°	229.4	13.9
70°-80°	154.2	9.3
80°-90°	43.5	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°	409.0	24.7
0°-40°	674.8	40.7
0°-60°	1228.9	74.2
0°-90°	1656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	521	521	521	521	521	
5°	521	520	518	520	520	49
15°	503	503	502	506	505	142
25°	467	468	472	476	476	215
35°	414	417	424	432	434	259
45°	348	353	366	381	388	268
55°	269	278	303	327	338	239
65°	177	196	236	267	279	176
75°	84	114	159	186	192	90
85°	16	34	41	44	46	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	520.8	520.8	520.8	520.8	520.8
2.5°	521.6	521.6	519.1	520.8	520.8
5°	520.8	519.9	517.5	519.9	519.9
7.5°	518.3	517.5	515.8	518.3	517.5
10°	513.4	513.4	511.7	514.2	514.2
12.5°	509.3	508.4	507.6	510.9	510.1
15°	502.7	502.7	501.9	506.0	505.2
17.5°	494.5	495.3	496.1	499.4	500.2
20°	485.4	487.1	487.9	492.8	492.8
22.5°	477.2	478.1	479.7	484.6	484.6
25°	466.6	468.2	471.5	475.6	476.4
27.5°	455.9	456.7	460.8	466.6	467.4
30°	441.9	444.4	449.3	455.9	456.7
32.5°	429.6	432.1	437.8	444.4	446.0
35°	414.0	417.3	423.8	432.1	433.7
37.5°	400.0	402.5	410.7	419.7	422.2
40°	382.8	387.7	395.9	406.6	410.7
42.5°	365.5	370.4	380.3	394.3	399.2
45°	347.5	353.2	365.5	381.1	387.7
47.5°	329.4	336.0	349.9	368.0	375.4
50°	308.8	317.1	334.3	354.8	363.1
52.5°	289.1	299.0	317.9	340.9	351.6
55°	268.6	278.5	303.1	326.9	338.4
57.5°	245.6	258.7	285.8	313.0	325.3
60°	224.2	236.6	269.4	299.0	311.3
62.5°	201.2	217.7	253.0	284.2	296.5
65°	177.4	195.5	235.7	267.0	279.3
67.5°	156.1	175.8	218.5	249.7	262.0
70°	130.6	155.2	199.6	230.8	243.1
72.5°	106.8	133.9	179.9	210.3	221.8
75°	83.8	114.2	159.4	186.5	192.2
77.5°	62.4	94.5	138.0	149.5	145.4
80°	44.4	75.6	107.6	101.9	104.3
82.5°	28.7	57.5	66.5	75.6	78.0
85°	16.4	33.7	41.1	44.4	46.0
87.5°	7.4	12.3	16.4	16.4	15.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)