

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: P313432

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-RDP-CP187-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: P313432
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 1855.0 lumens
Efficiency: N/A
Efficacy: 85.9 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

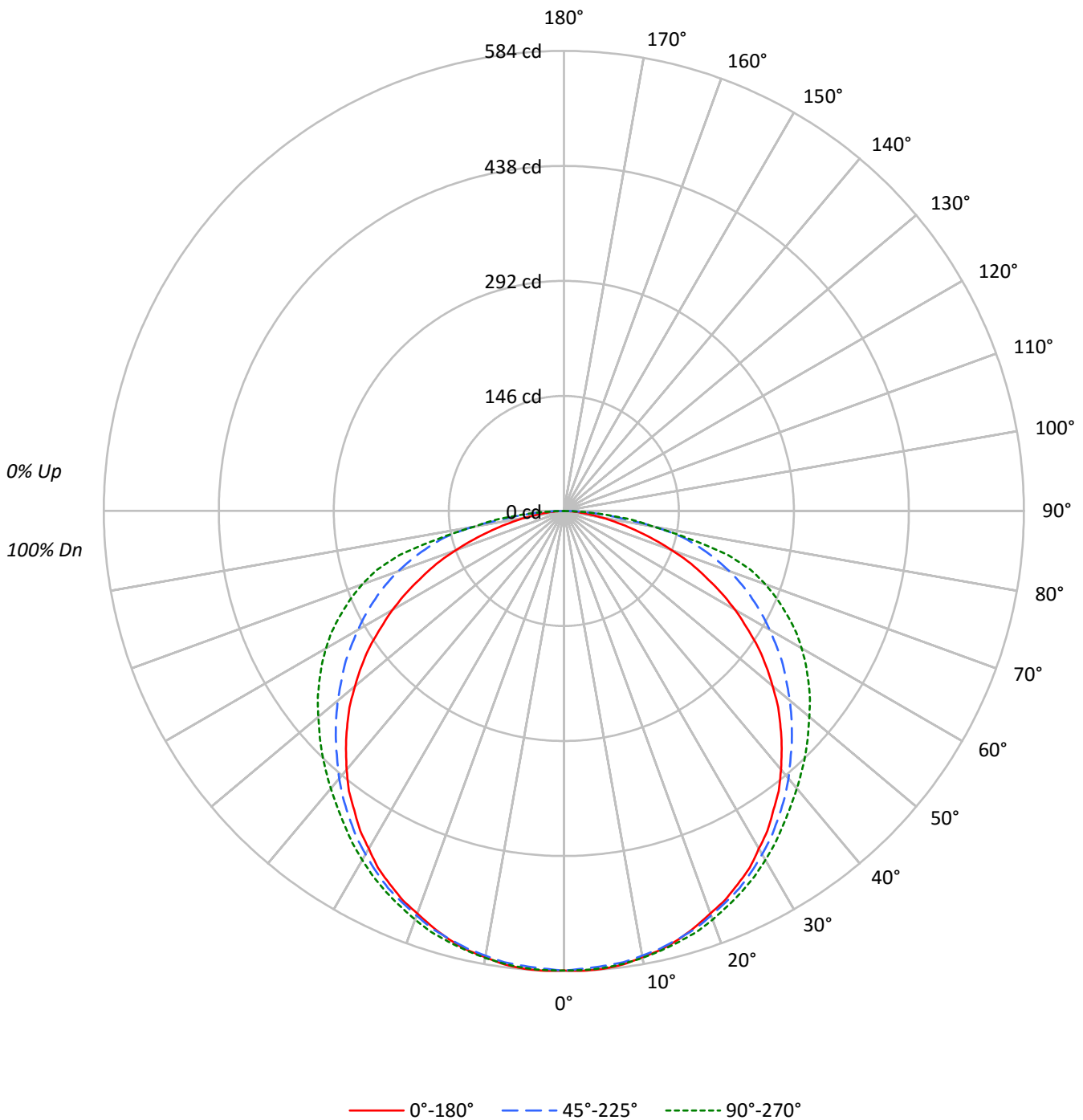
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	68	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°	785	785	785
5°	788	783	787
10°	786	783	787
15°	784	783	788
20°	779	783	791
25°	776	784	792
30°	769	782	795
35°	762	780	798
40°	753	779	808
45°	741	779	826
50°	724	784	851
55°	706	796	889
60°	676	812	938
65°	633	841	996
70°	576	880	1072
75°	488	928	1119
80°	385	934	906
85°	284	710	795



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.3	3.0
10°-20°	159.3	8.6
20°-30°	243.5	13.1
30°-40°	297.7	16.0
40°-50°	317.3	17.1
50°-60°	303.4	16.4
60°-70°	257.0	13.9
70°-80°	172.7	9.3
80°-90°	48.7	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°	458.1	24.7
0°-40°	755.9	40.7
0°-60°	1376.5	74.2
0°-90°	1855.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1855.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	583	582	580	582	582	55
15°	563	563	562	567	566	159
25°	523	524	528	533	534	241
35°	464	467	475	484	486	291
45°	389	396	409	427	434	300
55°	301	312	340	366	379	268
65°	199	219	264	299	313	197
75°	94	128	178	209	215	100
85°	18	38	46	50	52	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	583.3	583.3	583.3	583.3	583.3
2.5°	584.3	584.3	581.5	583.3	583.3
5°	583.3	582.4	579.7	582.4	582.4
7.5°	580.6	579.7	577.8	580.6	579.7
10°	575.1	575.1	573.2	576.0	576.0
12.5°	570.5	569.5	568.6	572.3	571.4
15°	563.1	563.1	562.2	566.8	565.9
17.5°	553.9	554.8	555.7	559.4	560.3
20°	543.8	545.6	546.5	552.1	552.1
22.5°	534.6	535.5	537.3	542.9	542.9
25°	522.6	524.5	528.1	532.7	533.7
27.5°	510.7	511.6	516.2	522.6	523.5
30°	495.0	497.8	503.3	510.7	511.6
32.5°	481.2	484.0	490.4	497.8	499.6
35°	463.7	467.4	474.8	484.0	485.8
37.5°	448.1	450.8	460.1	470.2	472.9
40°	428.8	434.3	443.5	455.5	460.1
42.5°	409.4	415.0	426.0	441.6	447.2
45°	389.2	395.6	409.4	426.9	434.3
47.5°	369.0	376.3	392.0	412.2	420.5
50°	346.0	355.2	374.5	397.5	406.7
52.5°	323.9	334.9	356.1	381.8	393.8
55°	300.9	311.9	339.5	366.2	379.1
57.5°	275.1	289.8	320.2	350.6	364.4
60°	251.2	265.0	301.8	334.9	348.7
62.5°	225.4	243.8	283.4	318.4	332.2
65°	198.7	219.0	264.1	299.0	312.8
67.5°	174.8	196.9	244.7	279.7	293.5
70°	146.3	173.9	223.6	258.5	272.4
72.5°	119.6	150.0	201.5	235.5	248.4
75°	93.9	127.9	178.5	208.9	215.3
77.5°	69.9	105.8	154.6	167.5	162.9
80°	49.7	84.6	120.5	114.1	116.9
82.5°	32.2	64.4	74.5	84.6	87.4
85°	18.4	37.7	46.0	49.7	51.5
87.5°	8.3	13.8	18.4	18.4	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)