

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: P309846

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-RDP-CP187-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: P309846
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-L82765-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 1795.0 lumens
Efficiency: N/A
Efficacy: 83.5 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

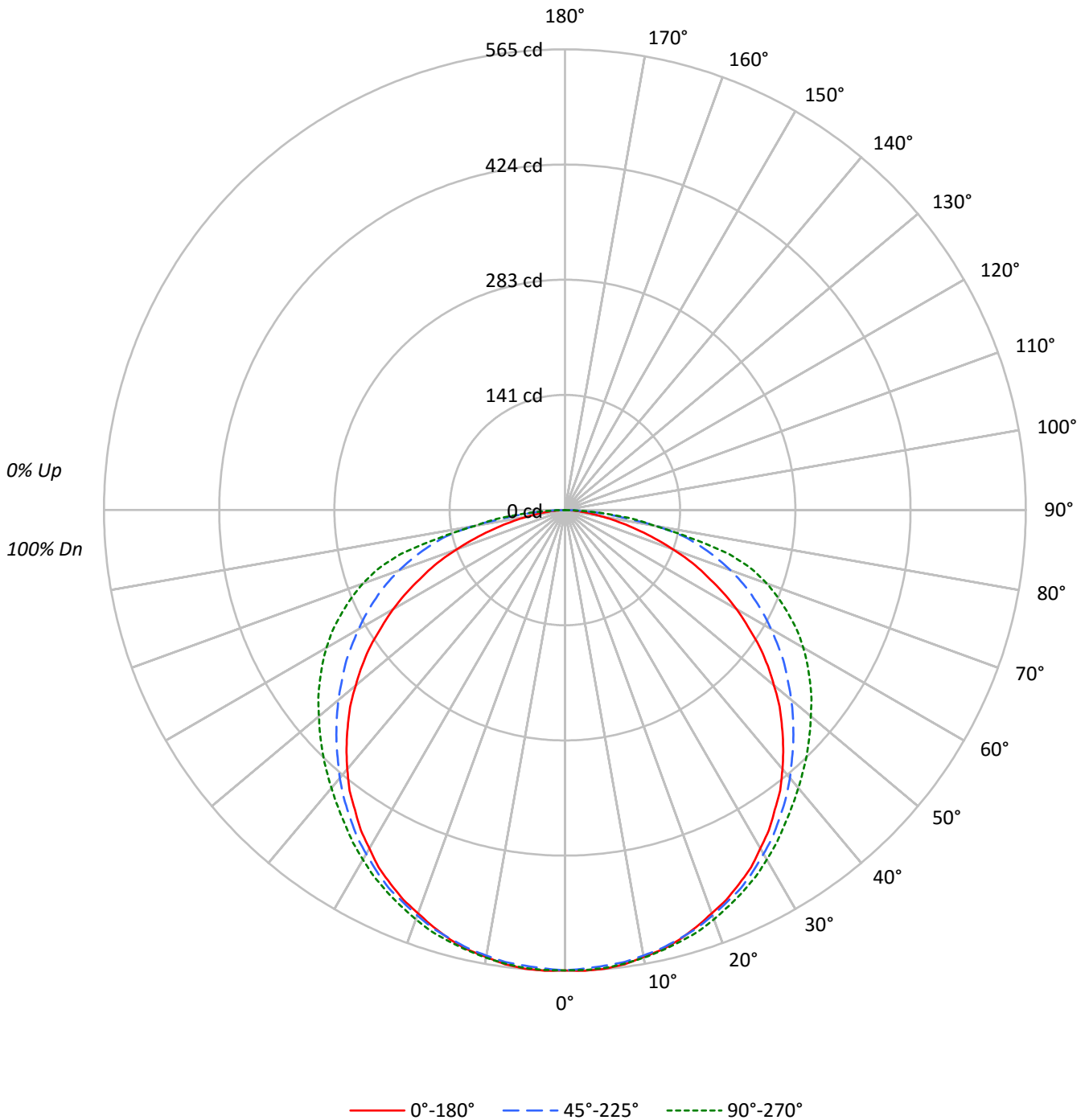
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	760	760	760
5°	762	758	761
10°	760	758	762
15°	759	758	763
20°	753	757	765
25°	751	759	767
30°	744	757	769
35°	737	755	772
40°	729	754	782
45°	717	754	800
50°	701	759	824
55°	683	771	860
60°	654	786	908
65°	612	813	964
70°	557	851	1037
75°	472	898	1083
80°	373	903	876
85°	275	687	770



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.5	3.0
10°-20°	154.1	8.6
20°-30°	235.7	13.1
30°-40°	288.1	16.0
40°-50°	307.0	17.1
50°-60°	293.6	16.4
60°-70°	248.7	13.9
70°-80°	167.1	9.3
80°-90°	47.1	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°	443.3	24.7
0°-40°	731.4	40.7
0°-60°	1332.0	74.2
0°-90°	1795.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	564	564	564	564	564	
5°	564	564	561	564	564	54
15°	545	545	544	548	548	154
25°	506	508	511	516	516	233
35°	449	452	459	468	470	281
45°	377	383	396	413	420	290
55°	291	302	328	354	367	259
65°	192	212	256	289	303	191
75°	91	124	173	202	208	97
85°	18	36	44	48	50	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	564.5	564.5	564.5	564.5	564.5
2.5°	565.4	565.4	562.7	564.5	564.5
5°	564.5	563.6	560.9	563.6	563.6
7.5°	561.8	560.9	559.1	561.8	560.9
10°	556.5	556.5	554.7	557.4	557.4
12.5°	552.0	551.1	550.2	553.8	552.9
15°	544.9	544.9	544.0	548.5	547.6
17.5°	536.0	536.9	537.8	541.3	542.2
20°	526.2	528.0	528.9	534.2	534.2
22.5°	517.3	518.2	520.0	525.3	525.3
25°	505.7	507.5	511.1	515.5	516.4
27.5°	494.1	495.0	499.5	505.7	506.6
30°	479.0	481.7	487.0	494.1	495.0
32.5°	465.6	468.3	474.6	481.7	483.5
35°	448.7	452.3	459.4	468.3	470.1
37.5°	433.6	436.3	445.2	455.0	457.6
40°	414.9	420.2	429.1	440.7	445.2
42.5°	396.2	401.5	412.2	427.4	432.7
45°	376.6	382.8	396.2	413.1	420.2
47.5°	357.0	364.1	379.3	398.9	406.9
50°	334.8	343.7	362.4	384.6	393.5
52.5°	313.4	324.1	344.6	369.5	381.1
55°	291.1	301.8	328.5	354.4	366.8
57.5°	266.2	280.5	309.8	339.2	352.6
60°	243.1	256.4	292.0	324.1	337.4
62.5°	218.1	235.9	274.2	308.1	321.4
65°	192.3	211.9	255.5	289.4	302.7
67.5°	169.2	190.5	236.8	270.7	284.0
70°	141.6	168.3	216.4	250.2	263.5
72.5°	115.7	145.1	195.0	227.9	240.4
75°	90.8	123.8	172.7	202.1	208.3
77.5°	67.7	102.4	149.6	162.0	157.6
80°	48.1	81.9	116.6	110.4	113.1
82.5°	31.2	62.3	72.1	81.9	84.6
85°	17.8	36.5	44.5	48.1	49.9
87.5°	8.0	13.4	17.8	17.8	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)