

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: P309171

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-HRP-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: P309171
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 2024.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

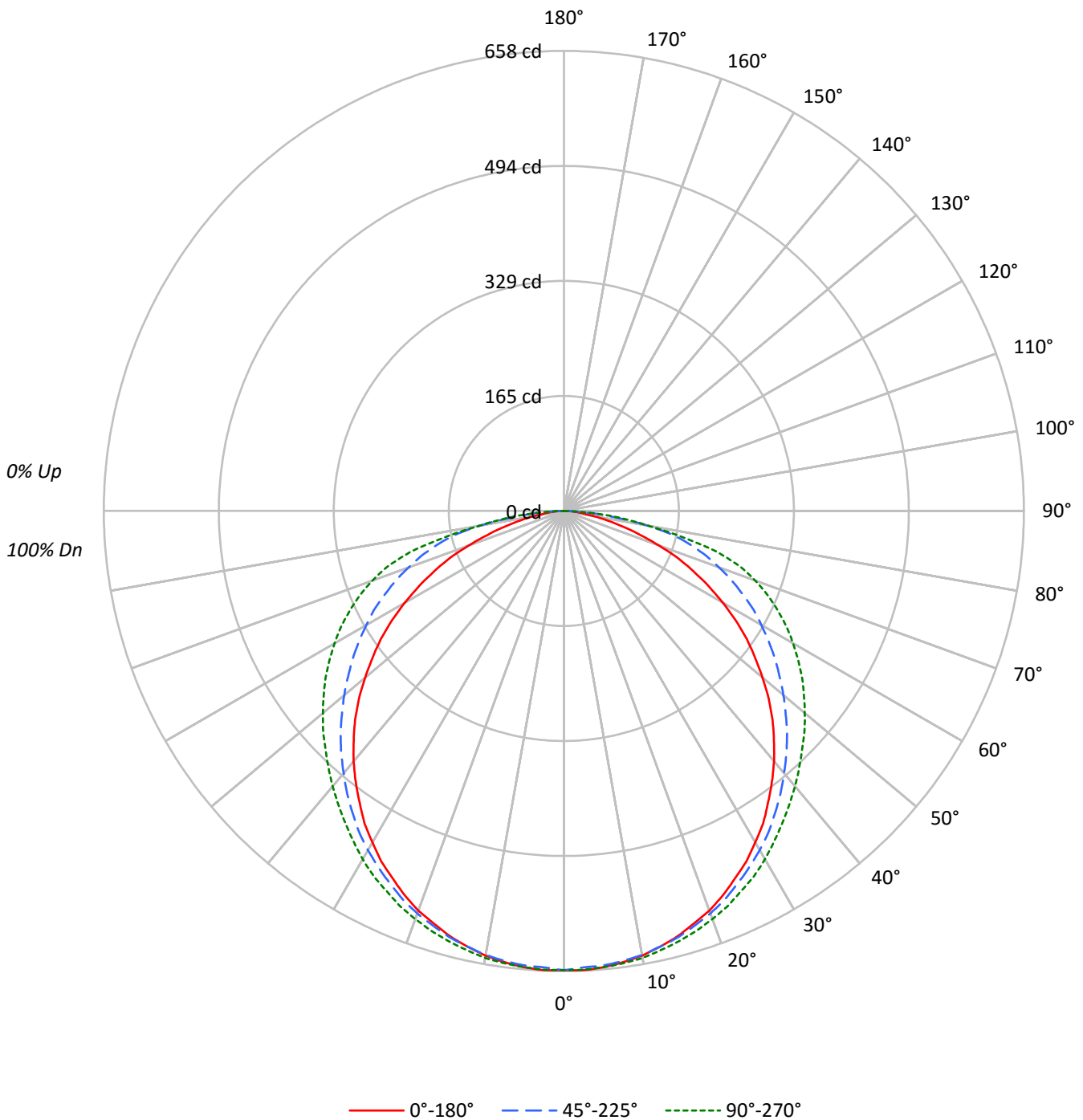
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	884	884	884
5°	885	881	885
10°	882	881	887
15°	877	879	888
20°	871	877	889
25°	860	873	891
30°	850	870	894
35°	837	866	895
40°	821	860	903
45°	803	859	917
50°	777	858	942
55°	749	865	976
60°	707	878	1019
65°	653	898	1076
70°	570	930	1147
75°	463	978	1185
80°	342	958	958
85°	261	707	798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.2	3.1
10°-20°	178.6	8.8
20°-30°	272.0	13.4
30°-40°	330.2	16.3
40°-50°	348.9	17.2
50°-60°	329.2	16.3
60°-70°	273.7	13.5
70°-80°	180.1	8.9
80°-90°	49.1	2.4
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°	512.8	25.3
0°-40°	843.0	41.7
0°-60°	1521.1	75.2
0°-90°	2024.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2024.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	657	657	657	657	657	
5°	655	655	652	655	655	62
15°	630	630	631	637	637	178
25°	580	583	588	598	600	267
35°	509	515	527	541	545	319
45°	422	430	452	474	482	325
55°	319	333	369	403	416	285
65°	205	229	282	324	338	203
75°	89	130	188	223	228	96
85°	17	37	46	51	52	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	656.7	656.7	656.7	656.7	656.7
2.5°	657.5	656.7	653.3	656.7	656.7
5°	655.0	655.0	652.5	655.0	655.0
7.5°	650.8	650.8	649.1	652.5	652.5
10°	645.7	645.7	644.8	649.1	649.1
12.5°	638.0	638.9	638.0	643.1	643.1
15°	629.6	630.4	631.3	637.2	637.2
17.5°	618.6	620.3	621.9	628.7	629.6
20°	608.4	609.2	612.6	620.3	621.1
22.5°	594.8	597.4	601.6	609.2	611.8
25°	579.6	583.0	588.1	598.2	599.9
27.5°	565.2	567.7	574.5	585.5	588.9
30°	547.4	551.6	560.1	571.1	575.3
32.5°	530.4	534.7	544.8	556.7	560.1
35°	509.3	515.2	527.0	540.6	544.8
37.5°	488.9	494.8	509.3	524.5	529.6
40°	467.7	474.5	489.8	507.6	514.3
42.5°	444.9	454.2	471.1	490.6	498.2
45°	422.0	430.4	451.6	473.7	482.1
47.5°	397.4	407.6	430.4	456.7	466.9
50°	371.1	383.8	410.1	438.9	449.9
52.5°	344.9	359.3	388.9	421.1	433.0
55°	319.4	333.0	368.6	403.3	416.0
57.5°	291.5	308.4	347.4	384.7	397.4
60°	262.7	281.3	326.2	365.2	378.8
62.5°	233.9	255.0	305.9	344.9	359.3
65°	205.1	228.8	282.2	323.7	338.1
67.5°	177.1	203.4	260.1	301.7	316.1
70°	144.9	177.9	236.4	277.1	291.5
72.5°	115.2	153.4	213.5	251.7	264.4
75°	89.0	129.6	188.1	222.9	227.9
77.5°	65.2	105.9	161.8	173.7	174.6
80°	44.1	84.7	123.7	122.0	123.7
82.5°	28.8	63.6	78.0	87.3	88.1
85°	16.9	37.3	45.8	50.8	51.7
87.5°	8.5	12.7	16.1	16.9	18.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)