

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: P309304

Luminaire Tested: **24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-3500K**

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: P309304
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: 24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 3500K 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: 2255.0 lumens
Efficiency: N/A
Efficacy: 80.2 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

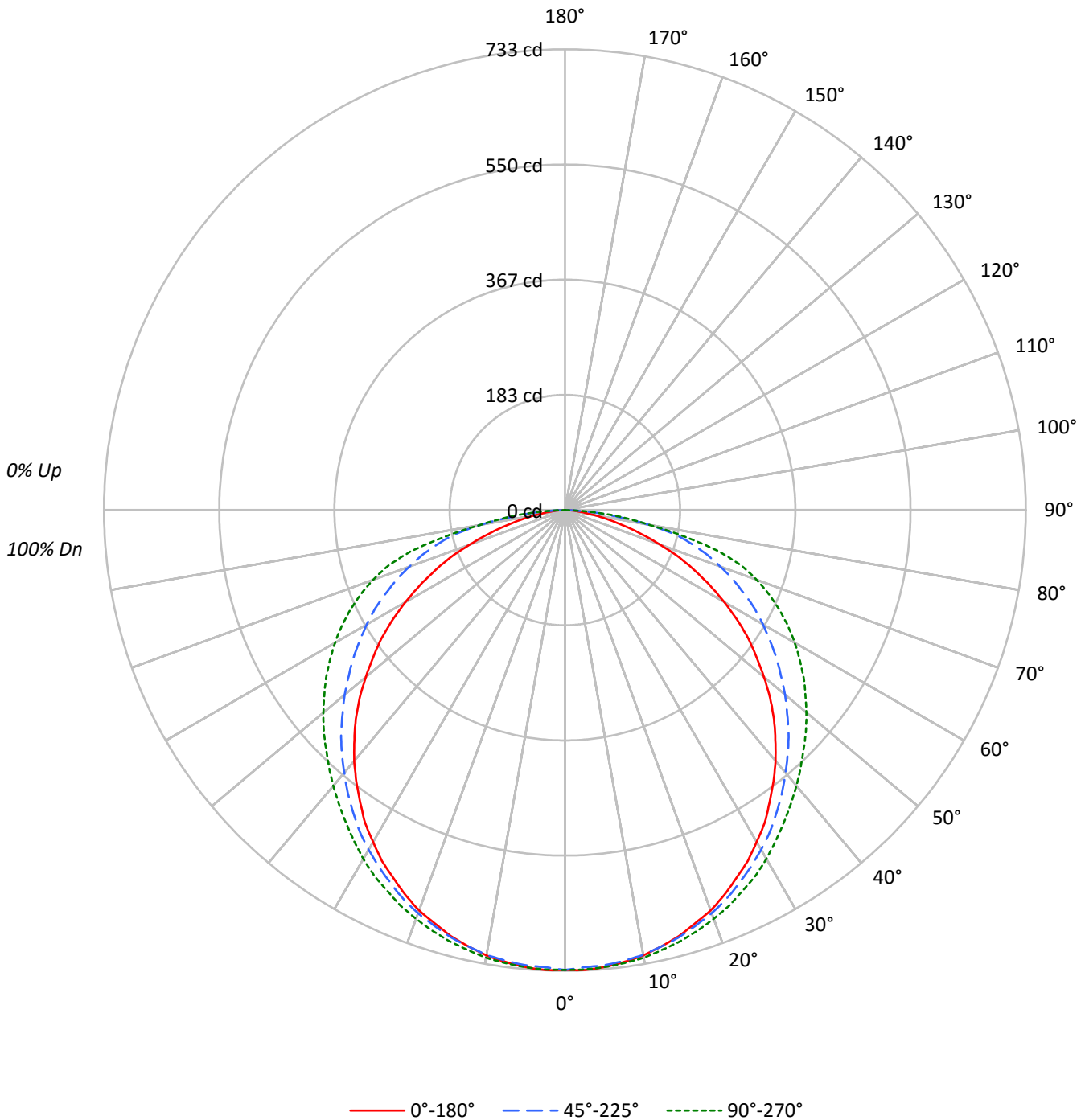
Input Watts (W): 28.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	984	984	984
5°	986	982	986
10°	983	982	988
15°	977	980	989
20°	971	977	991
25°	959	973	992
30°	948	969	996
35°	932	964	997
40°	915	958	1006
45°	895	957	1022
50°	866	956	1049
55°	835	963	1087
60°	788	978	1136
65°	727	1001	1199
70°	635	1036	1278
75°	515	1090	1320
80°	380	1068	1068
85°	292	787	889



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.3	3.1
10°-20°	199.0	8.8
20°-30°	303.0	13.4
30°-40°	367.9	16.3
40°-50°	388.7	17.2
50°-60°	366.8	16.3
60°-70°	305.0	13.5
70°-80°	200.6	8.9
80°-90°	54.7	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°	571.3	25.3
0°-40°	939.2	41.7
0°-60°	1694.7	75.2
0°-90°	2255.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2255.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	730	730	727	730	730	69
15°	701	702	703	710	710	198
25°	646	650	655	666	668	298
35°	567	574	587	602	607	355
45°	470	480	503	528	537	362
55°	356	371	411	449	464	317
65°	228	255	314	361	377	226
75°	99	144	210	248	254	107
85°	19	42	51	57	58	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	731.6	731.6	731.6	731.6	731.6
2.5°	732.6	731.6	727.9	731.6	731.6
5°	729.7	729.7	726.9	729.7	729.7
7.5°	725.0	725.0	723.1	726.9	726.9
10°	719.4	719.4	718.4	723.1	723.1
12.5°	710.9	711.8	710.9	716.5	716.5
15°	701.4	702.4	703.3	709.9	709.9
17.5°	689.2	691.0	692.9	700.5	701.4
20°	677.8	678.8	682.5	691.0	692.0
22.5°	662.7	665.6	670.3	678.8	681.6
25°	645.7	649.5	655.2	666.5	668.4
27.5°	629.7	632.5	640.1	652.3	656.1
30°	609.9	614.6	624.0	636.3	641.0
32.5°	591.0	595.7	607.0	620.2	624.0
35°	567.4	574.0	587.2	602.3	607.0
37.5°	544.7	551.3	567.4	584.4	590.0
40°	521.1	528.7	545.7	565.5	573.0
42.5°	495.6	506.0	524.9	546.6	555.1
45°	470.1	479.6	503.2	527.7	537.2
47.5°	442.8	454.1	479.6	508.8	520.2
50°	413.5	427.7	456.9	489.0	501.3
52.5°	384.2	400.3	433.3	469.2	482.4
55°	355.9	371.0	410.7	449.4	463.5
57.5°	324.8	343.6	387.1	428.6	442.8
60°	292.7	313.4	363.5	406.9	422.0
62.5°	260.6	284.2	340.8	384.2	400.3
65°	228.5	254.9	314.4	360.6	376.7
67.5°	197.3	226.6	289.8	336.1	352.1
70°	161.4	198.2	263.4	308.7	324.8
72.5°	128.4	170.9	237.9	280.4	294.5
75°	99.1	144.4	209.6	248.3	253.9
77.5°	72.7	118.0	180.3	193.5	194.5
80°	49.1	94.4	137.8	135.9	137.8
82.5°	32.1	70.8	86.9	97.2	98.2
85°	18.9	41.5	51.0	56.6	57.6
87.5°	9.4	14.2	17.9	18.9	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)