

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: P309979

Luminaire Tested: **24FCZ2-35-UNV-L82765-RDP-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: P309979
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: 24FCZ2-35-UNV-L82765-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1999.0 lumens
Efficiency: N/A
Efficacy: 71.1 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

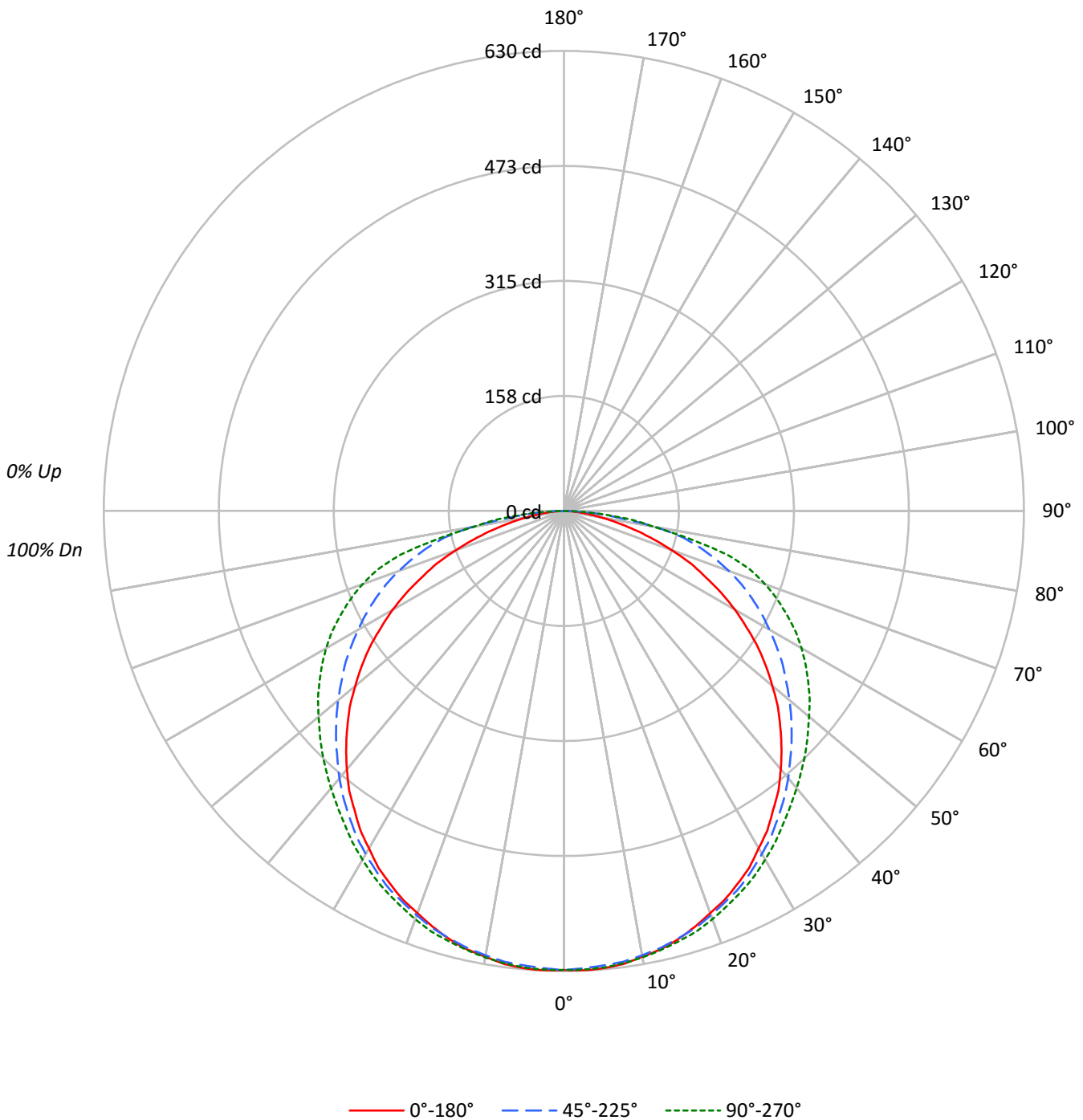
Input Watts (W): 28.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	846	846	846
5°	849	844	848
10°	847	844	848
15°	845	844	849
20°	839	843	852
25°	836	845	854
30°	829	843	857
35°	821	840	860
40°	812	839	871
45°	798	840	891
50°	780	845	917
55°	761	858	958
60°	728	875	1011
65°	682	906	1073
70°	620	948	1155
75°	526	1000	1206
80°	415	1007	976
85°	306	766	857



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.6	3.0
10°-20°	171.6	8.6
20°-30°	262.4	13.1
30°-40°	320.8	16.0
40°-50°	341.9	17.1
50°-60°	326.9	16.4
60°-70°	277.0	13.9
70°-80°	186.1	9.3
80°-90°	52.5	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°	493.7	24.7
0°-40°	814.5	40.7
0°-60°	1483.4	74.2
0°-90°	1999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1999.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	629	629	629	629	629	
5°	629	628	625	628	628	60
15°	607	607	606	611	610	171
25°	563	565	569	574	575	260
35°	500	504	512	522	524	313
45°	419	426	441	460	468	323
55°	324	336	366	395	408	289
65°	214	236	285	322	337	213
75°	101	138	192	225	232	108
85°	20	41	50	54	56	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	628.6	628.6	628.6	628.6	628.6
2.5°	629.6	629.6	626.6	628.6	628.6
5°	628.6	627.6	624.7	627.6	627.6
7.5°	625.7	624.7	622.7	625.7	624.7
10°	619.7	619.7	617.7	620.7	620.7
12.5°	614.7	613.8	612.8	616.7	615.7
15°	606.8	606.8	605.8	610.8	609.8
17.5°	596.9	597.9	598.9	602.8	603.8
20°	586.0	588.0	589.0	594.9	594.9
22.5°	576.1	577.1	579.1	585.0	585.0
25°	563.2	565.2	569.1	574.1	575.1
27.5°	550.3	551.3	556.2	563.2	564.2
30°	533.4	536.4	542.4	550.3	551.3
32.5°	518.6	521.5	528.5	536.4	538.4
35°	499.7	503.7	511.6	521.5	523.5
37.5°	482.9	485.8	495.8	506.7	509.6
40°	462.1	468.0	477.9	490.8	495.8
42.5°	441.2	447.2	459.1	475.9	481.9
45°	419.4	426.4	441.2	460.1	468.0
47.5°	397.6	405.5	422.4	444.2	453.1
50°	372.8	382.7	403.6	428.3	438.3
52.5°	349.0	360.9	383.7	411.5	424.4
55°	324.2	336.1	365.9	394.6	408.5
57.5°	296.5	312.3	345.1	377.8	392.6
60°	270.7	285.6	325.2	360.9	375.8
62.5°	242.9	262.8	305.4	343.1	357.9
65°	214.2	236.0	284.6	322.2	337.1
67.5°	188.4	212.2	263.7	301.4	316.3
70°	157.7	187.4	240.9	278.6	293.5
72.5°	128.9	161.6	217.1	253.8	267.7
75°	101.1	137.8	192.4	225.1	232.0
77.5°	75.4	114.0	166.6	180.5	175.5
80°	53.5	91.2	129.9	122.9	125.9
82.5°	34.7	69.4	80.3	91.2	94.2
85°	19.8	40.7	49.6	53.5	55.5
87.5°	8.9	14.9	19.8	19.8	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)