

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: P310067

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-2700K**

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: P310067
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: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 2700K 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

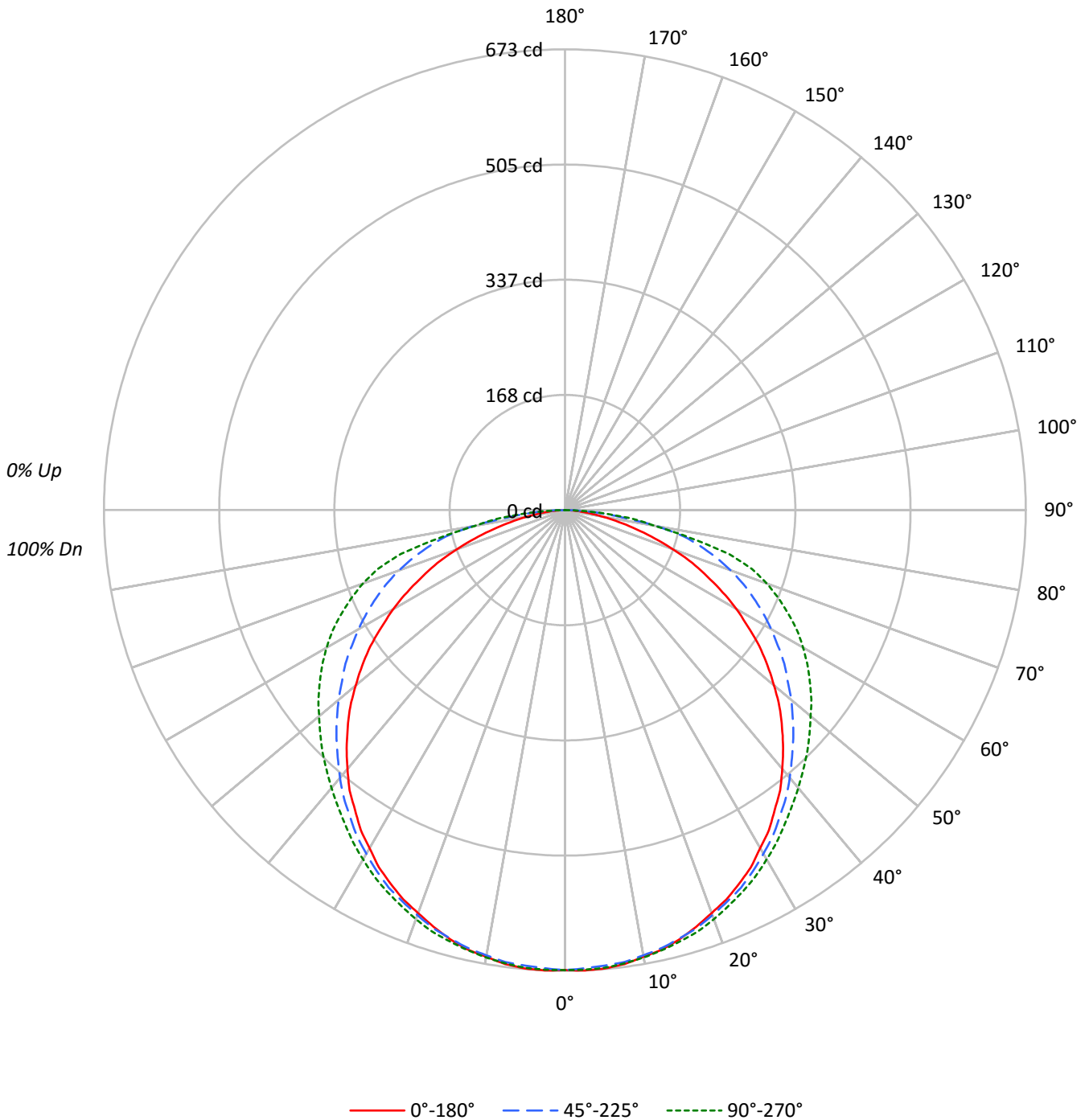
Lumens per Lamp: N/A
Luminaire Lumens: 2137.0 lumens
Efficiency: N/A
Efficacy: 65.4 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 32.7
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°	904	904	904
5°	908	902	906
10°	905	902	907
15°	904	902	908
20°	897	901	911
25°	894	903	913
30°	886	901	916
35°	877	898	919
40°	867	897	931
45°	853	898	952
50°	834	903	981
55°	813	917	1024
60°	779	936	1081
65°	729	968	1147
70°	663	1013	1234
75°	562	1069	1289
80°	443	1076	1043
85°	327	818	917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.7	3.0
10°-20°	183.5	8.6
20°-30°	280.6	13.1
30°-40°	343.0	16.0
40°-50°	365.5	17.1
50°-60°	349.5	16.4
60°-70°	296.1	13.9
70°-80°	199.0	9.3
80°-90°	56.1	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°	527.8	24.7
0°-40°	870.7	40.7
0°-60°	1585.8	74.2
0°-90°	2137.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2137.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	672	672	672	672	672	
5°	672	671	668	671	671	64
15°	649	649	648	653	652	183
25°	602	604	608	614	615	277
35°	534	538	547	558	560	335
45°	448	456	472	492	500	346
55°	347	359	391	422	437	309
65°	229	252	304	344	360	227
75°	108	147	206	241	248	116
85°	21	44	53	57	59	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	672.0	672.0	672.0	672.0	672.0
2.5°	673.1	673.1	669.9	672.0	672.0
5°	672.0	671.0	667.8	671.0	671.0
7.5°	668.8	667.8	665.7	668.8	667.8
10°	662.5	662.5	660.4	663.5	663.5
12.5°	657.2	656.1	655.1	659.3	658.2
15°	648.7	648.7	647.6	652.9	651.9
17.5°	638.1	639.2	640.2	644.5	645.5
20°	626.4	628.6	629.6	636.0	636.0
22.5°	615.8	616.9	619.0	625.4	625.4
25°	602.1	604.2	608.4	613.7	614.8
27.5°	588.3	589.3	594.6	602.1	603.1
30°	570.3	573.4	579.8	588.3	589.3
32.5°	554.4	557.5	565.0	573.4	575.6
35°	534.2	538.5	546.9	557.5	559.7
37.5°	516.2	519.4	530.0	541.6	544.8
40°	493.9	500.3	510.9	524.7	530.0
42.5°	471.7	478.0	490.8	508.8	515.1
45°	448.4	455.8	471.7	491.8	500.3
47.5°	425.1	433.5	451.6	474.9	484.4
50°	398.6	409.2	431.4	457.9	468.5
52.5°	373.1	385.8	410.2	439.9	453.7
55°	346.6	359.3	391.1	421.9	436.7
57.5°	316.9	333.9	368.9	403.9	419.8
60°	289.4	305.3	347.7	385.8	401.7
62.5°	259.7	280.9	326.5	366.8	382.7
65°	229.0	252.3	304.2	344.5	360.4
67.5°	201.4	226.8	282.0	322.2	338.1
70°	168.5	200.3	257.6	297.9	313.8
72.5°	137.8	172.8	232.1	271.4	286.2
75°	108.1	147.3	205.6	240.6	248.0
77.5°	80.6	121.9	178.1	192.9	187.6
80°	57.2	97.5	138.9	131.4	134.6
82.5°	37.1	74.2	85.9	97.5	100.7
85°	21.2	43.5	53.0	57.2	59.4
87.5°	9.5	15.9	21.2	21.2	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)