

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: P309978

Luminaire Tested: **24FCZ2-35-UNV-L82765-RDP-CP187-W2A-U-3000K**

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: P309978
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 1932.0 lumens
Efficiency: N/A
Efficacy: 69.5 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

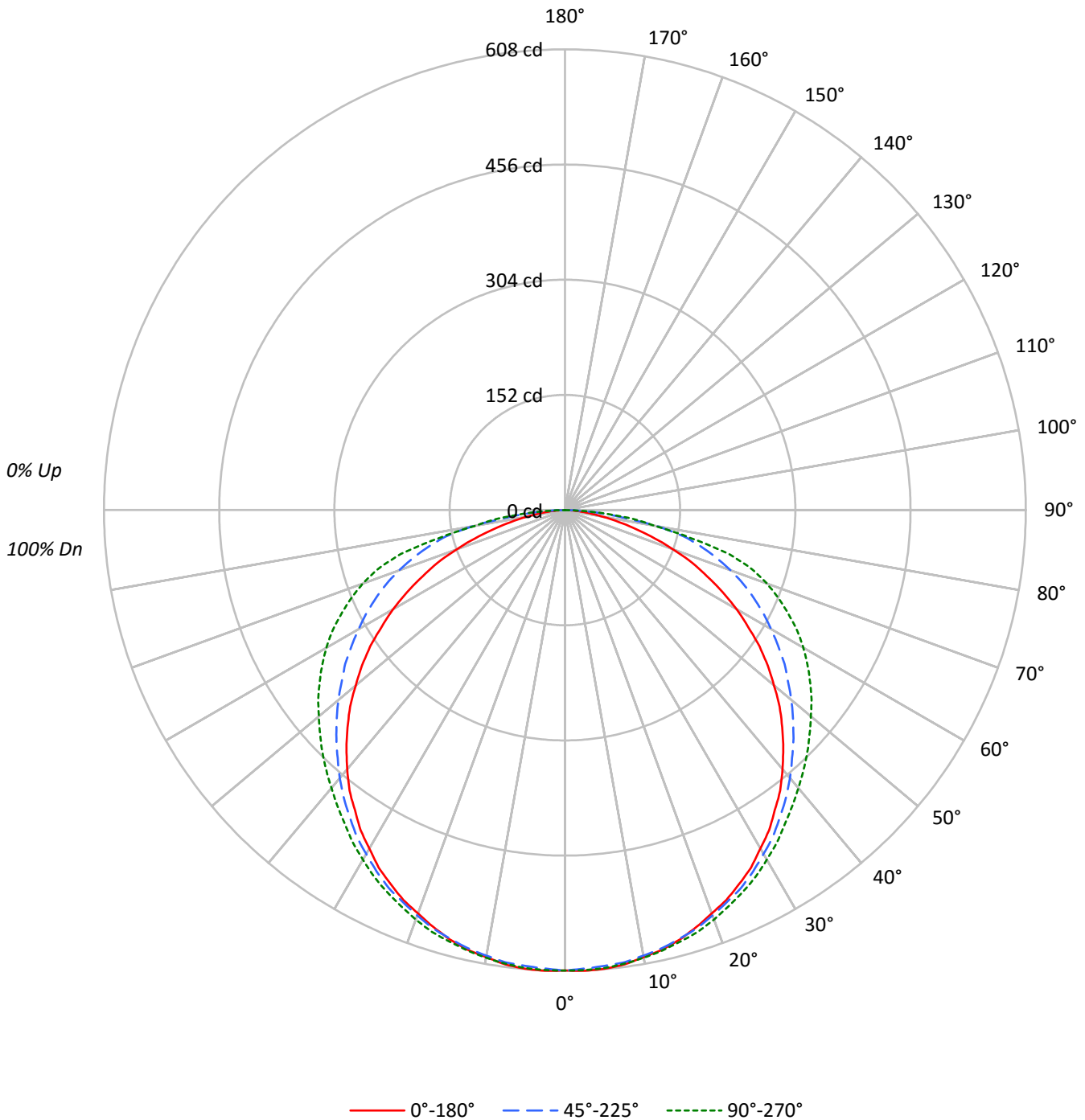
Input Watts (W): 27.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	818	818	818
5°	821	815	819
10°	818	816	820
15°	817	816	821
20°	811	815	823
25°	808	817	825
30°	801	814	828
35°	793	812	831
40°	784	811	841
45°	771	811	861
50°	754	816	887
55°	735	829	926
60°	704	846	977
65°	659	876	1037
70°	600	916	1116
75°	508	966	1166
80°	401	972	943
85°	296	739	829



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.6	3.0
10°-20°	165.9	8.6
20°-30°	253.6	13.1
30°-40°	310.1	16.0
40°-50°	330.5	17.1
50°-60°	316.0	16.4
60°-70°	267.7	13.9
70°-80°	179.9	9.3
80°-90°	50.7	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°	477.1	24.7
0°-40°	787.2	40.7
0°-60°	1433.7	74.2
0°-90°	1932.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1932.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	608	608	608	608	608	
5°	608	607	604	607	607	58
15°	586	586	586	590	589	165
25°	544	546	550	555	556	251
35°	483	487	494	504	506	303
45°	405	412	426	445	452	313
55°	313	325	354	381	395	279
65°	207	228	275	311	326	206
75°	98	133	186	218	224	105
85°	19	39	48	52	54	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	607.6	607.6	607.6	607.6	607.6
2.5°	608.5	608.5	605.6	607.6	607.6
5°	607.6	606.6	603.7	606.6	606.6
7.5°	604.7	603.7	601.8	604.7	603.7
10°	598.9	598.9	597.0	599.9	599.9
12.5°	594.1	593.2	592.2	596.1	595.1
15°	586.5	586.5	585.5	590.3	589.4
17.5°	576.9	577.9	578.8	582.6	583.6
20°	566.4	568.3	569.2	575.0	575.0
22.5°	556.8	557.7	559.6	565.4	565.4
25°	544.3	546.2	550.1	554.9	555.8
27.5°	531.9	532.8	537.6	544.3	545.3
30°	515.6	518.4	524.2	531.9	532.8
32.5°	501.2	504.1	510.8	518.4	520.4
35°	483.0	486.8	494.5	504.1	506.0
37.5°	466.7	469.6	479.1	489.7	492.6
40°	446.6	452.3	461.9	474.4	479.1
42.5°	426.4	432.2	443.7	460.0	465.7
45°	405.4	412.1	426.4	444.6	452.3
47.5°	384.3	391.9	408.2	429.3	437.9
50°	360.3	369.9	390.0	414.0	423.6
52.5°	337.3	348.8	370.9	397.7	410.2
55°	313.4	324.9	353.6	381.4	394.8
57.5°	286.5	301.9	333.5	365.1	379.5
60°	261.6	276.0	314.3	348.8	363.2
62.5°	234.8	253.9	295.2	331.6	345.9
65°	207.0	228.1	275.0	311.4	325.8
67.5°	182.1	205.1	254.9	291.3	305.7
70°	152.4	181.1	232.9	269.3	283.7
72.5°	124.6	156.2	209.9	245.3	258.7
75°	97.7	133.2	185.9	217.5	224.2
77.5°	72.8	110.2	161.0	174.4	169.6
80°	51.7	88.2	125.5	118.8	121.7
82.5°	33.5	67.1	77.6	88.2	91.0
85°	19.2	39.3	47.9	51.7	53.7
87.5°	8.6	14.4	19.2	19.2	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)