

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: P310071

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-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: P310071
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 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: 2366.0 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

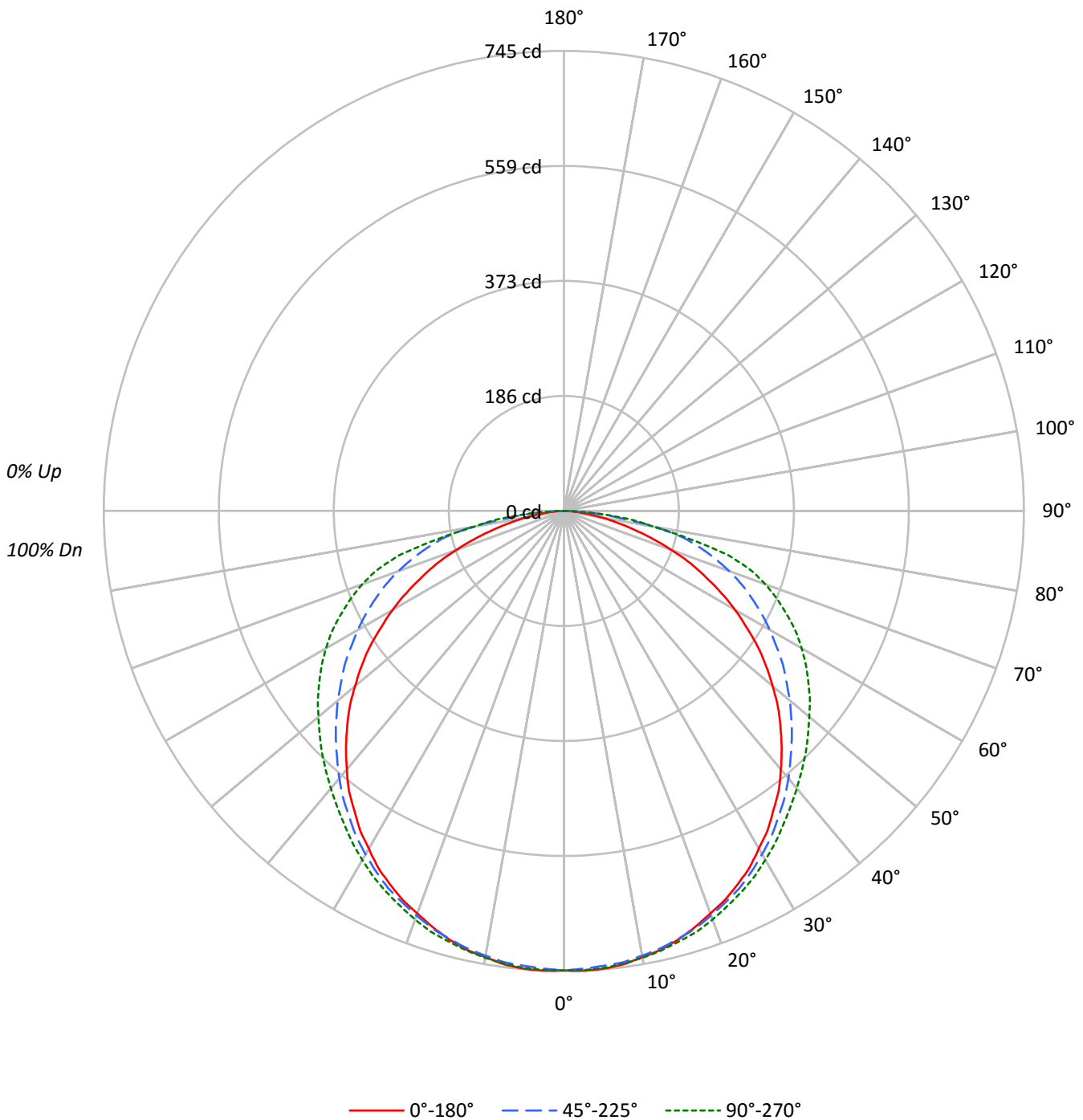
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1001	1001	1001
5°	1005	999	1003
10°	1002	999	1004
15°	1000	999	1005
20°	993	998	1008
25°	990	1000	1011
30°	981	997	1014
35°	972	995	1018
40°	961	994	1031
45°	945	994	1054
50°	924	1000	1086
55°	900	1016	1134
60°	862	1036	1197
65°	807	1072	1270
70°	734	1122	1367
75°	622	1184	1428
80°	491	1191	1155
85°	363	906	1014



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.6	3.0
10°-20°	203.1	8.6
20°-30°	310.6	13.1
30°-40°	379.7	16.0
40°-50°	404.7	17.1
50°-60°	387.0	16.4
60°-70°	327.8	13.9
70°-80°	220.3	9.3
80°-90°	62.2	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°	584.3	24.7
0°-40°	964.1	40.7
0°-60°	1755.7	74.2
0°-90°	2366.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2366.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	744	744	744	744	744	
5°	744	743	739	743	743	71
15°	718	718	717	723	722	203
25°	667	669	674	680	681	307
35°	592	596	606	617	620	371
45°	496	505	522	544	554	383
55°	384	398	433	467	484	342
65°	254	279	337	381	399	252
75°	120	163	228	266	275	128
85°	24	48	59	63	66	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	744.0	744.0	744.0	744.0	744.0
2.5°	745.2	745.2	741.7	744.0	744.0
5°	744.0	742.9	739.3	742.9	742.9
7.5°	740.5	739.3	737.0	740.5	739.3
10°	733.5	733.5	731.1	734.7	734.7
12.5°	727.6	726.4	725.3	730.0	728.8
15°	718.2	718.2	717.0	722.9	721.7
17.5°	706.5	707.7	708.8	713.5	714.7
20°	693.6	695.9	697.1	704.1	704.1
22.5°	681.8	683.0	685.4	692.4	692.4
25°	666.6	668.9	673.6	679.5	680.7
27.5°	651.3	652.5	658.4	666.6	667.8
30°	631.4	634.9	641.9	651.3	652.5
32.5°	613.8	617.3	625.5	634.9	637.2
35°	591.5	596.2	605.6	617.3	619.6
37.5°	571.5	575.0	586.8	599.7	603.2
40°	546.9	553.9	565.7	580.9	586.8
42.5°	522.2	529.3	543.4	563.3	570.4
45°	496.4	504.6	522.2	544.5	553.9
47.5°	470.6	480.0	499.9	525.8	536.3
50°	441.3	453.0	477.6	507.0	518.7
52.5°	413.1	427.2	454.2	487.0	502.3
55°	383.8	397.8	433.0	467.1	483.5
57.5°	350.9	369.7	408.4	447.1	464.7
60°	320.4	338.0	384.9	427.2	444.8
62.5°	287.5	311.0	361.5	406.1	423.7
65°	253.5	279.3	336.8	381.4	399.0
67.5°	223.0	251.1	312.2	356.8	374.4
70°	186.6	221.8	285.2	329.8	347.4
72.5°	152.6	191.3	257.0	300.4	316.9
75°	119.7	163.1	227.7	266.4	274.6
77.5°	89.2	135.0	197.2	213.6	207.7
80°	63.4	108.0	153.7	145.5	149.0
82.5°	41.1	82.1	95.1	108.0	111.5
85°	23.5	48.1	58.7	63.4	65.7
87.5°	10.6	17.6	23.5	23.5	22.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)