

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: P310070

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-4000K**

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: P310070
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 2325.0 lumens
Efficiency: N/A
Efficacy: 70.2 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

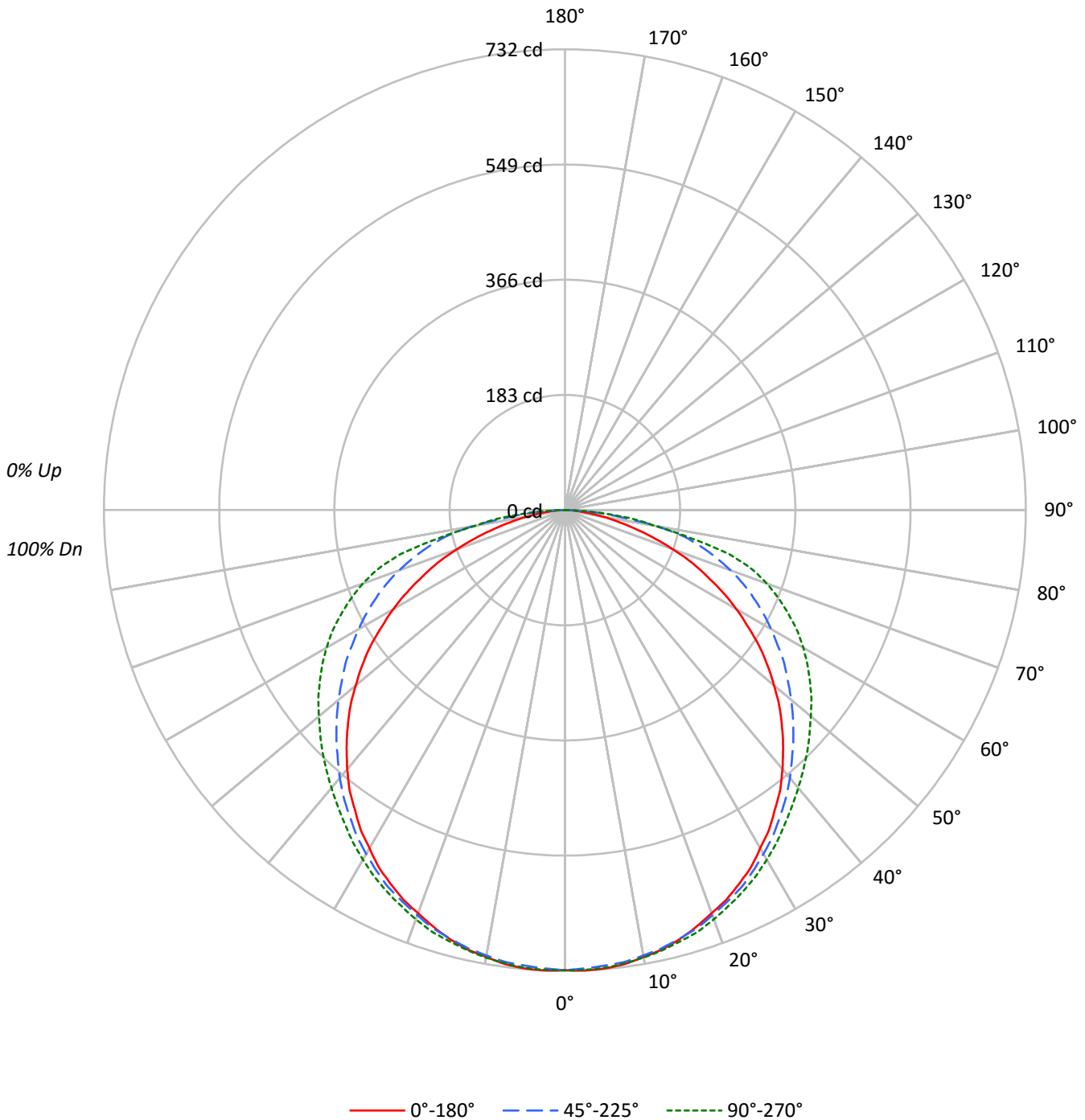
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	984	984	984
5°	987	981	986
10°	985	982	986
15°	983	981	988
20°	976	981	991
25°	972	983	993
30°	964	980	996
35°	955	977	1000
40°	944	976	1013
45°	928	977	1036
50°	908	983	1067
55°	885	998	1114
60°	847	1018	1176
65°	793	1054	1248
70°	721	1102	1343
75°	611	1163	1403
80°	483	1171	1135
85°	357	891	997



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.4	3.0
10°-20°	199.6	8.6
20°-30°	305.2	13.1
30°-40°	373.1	16.0
40°-50°	397.7	17.1
50°-60°	380.3	16.4
60°-70°	322.1	13.9
70°-80°	216.5	9.3
80°-90°	61.1	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°	574.2	24.7
0°-40°	947.3	40.7
0°-60°	1725.3	74.2
0°-90°	2325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2325.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	731	731	731	731	731	
5°	731	730	726	730	730	69
15°	706	706	705	710	709	199
25°	655	657	662	668	669	302
35°	581	586	595	607	609	364
45°	488	496	513	535	544	376
55°	377	391	426	459	475	336
65°	249	274	331	375	392	247
75°	118	160	224	262	270	126
85°	23	47	58	62	65	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	731.1	731.1	731.1	731.1	731.1
2.5°	732.3	732.3	728.8	731.1	731.1
5°	731.1	730.0	726.5	730.0	730.0
7.5°	727.7	726.5	724.2	727.7	726.5
10°	720.8	720.8	718.5	721.9	721.9
12.5°	715.0	713.8	712.7	717.3	716.2
15°	705.8	705.8	704.6	710.4	709.2
17.5°	694.2	695.4	696.5	701.2	702.3
20°	681.6	683.9	685.0	691.9	691.9
22.5°	670.0	671.2	673.5	680.4	680.4
25°	655.0	657.3	662.0	667.7	668.9
27.5°	640.0	641.2	647.0	655.0	656.2
30°	620.4	623.9	630.8	640.0	641.2
32.5°	603.1	606.6	614.7	623.9	626.2
35°	581.2	585.8	595.1	606.6	608.9
37.5°	561.6	565.1	576.6	589.3	592.8
40°	537.4	544.3	555.9	570.8	576.6
42.5°	513.2	520.1	533.9	553.5	560.5
45°	487.8	495.9	513.2	535.1	544.3
47.5°	462.4	471.7	491.3	516.6	527.0
50°	433.6	445.1	469.4	498.2	509.7
52.5°	405.9	419.8	446.3	478.6	493.6
55°	377.1	390.9	425.5	459.0	475.1
57.5°	344.8	363.3	401.3	439.4	456.7
60°	314.8	332.1	378.3	419.8	437.1
62.5°	282.5	305.6	355.2	399.0	416.3
65°	249.1	274.5	331.0	374.8	392.1
67.5°	219.1	246.8	306.8	350.6	367.9
70°	183.4	218.0	280.2	324.1	341.4
72.5°	149.9	188.0	252.6	295.2	311.4
75°	117.6	160.3	223.7	261.8	269.9
77.5°	87.6	132.6	193.7	209.9	204.1
80°	62.3	106.1	151.1	143.0	146.5
82.5°	40.4	80.7	93.4	106.1	109.6
85°	23.1	47.3	57.7	62.3	64.6
87.5°	10.4	17.3	23.1	23.1	21.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)