

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: P310202

Luminaire Tested: **24FCZ2-50HE-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: P310202
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: 24FCZ2-50HE-UNV-L82765-RDP-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2654.0 lumens
Efficiency: N/A
Efficacy: 69.1 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

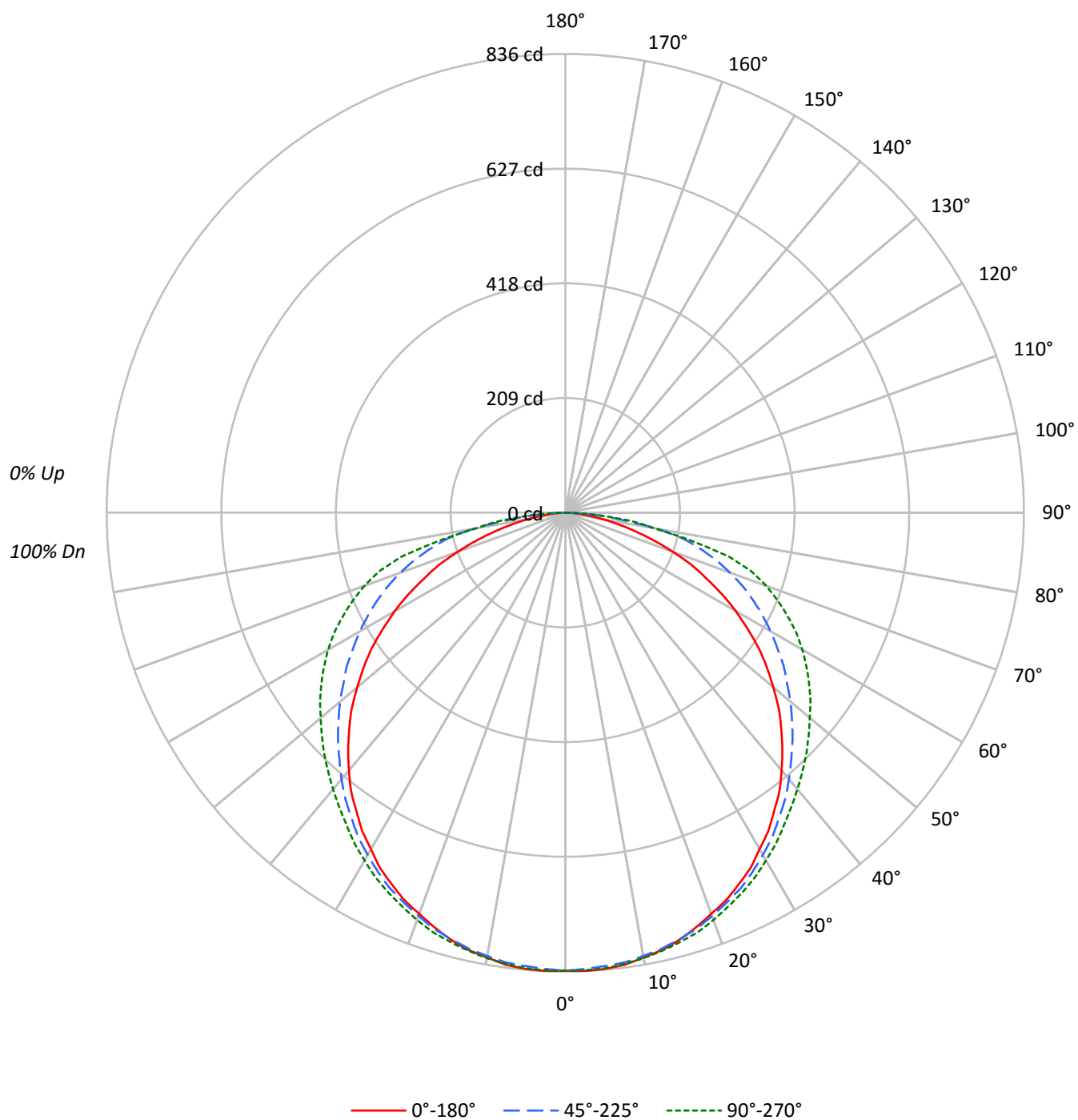
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1123	1123	1123
5°	1127	1120	1125
10°	1124	1120	1126
15°	1122	1120	1128
20°	1114	1120	1131
25°	1110	1122	1133
30°	1100	1119	1137
35°	1090	1116	1142
40°	1077	1114	1156
45°	1059	1115	1182
50°	1036	1122	1218
55°	1010	1140	1272
60°	967	1162	1343
65°	905	1203	1425
70°	823	1258	1533
75°	698	1328	1601
80°	551	1337	1296
85°	406	1016	1138



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.2	3.0
10°-20°	227.8	8.6
20°-30°	348.4	13.1
30°-40°	425.9	16.0
40°-50°	454.0	17.1
50°-60°	434.1	16.4
60°-70°	367.7	13.9
70°-80°	247.1	9.3
80°-90°	69.7	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°	655.5	24.7
0°-40°	1081.4	40.7
0°-60°	1969.5	74.2
0°-90°	2654.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2654.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	835	835	835	835	835	
5°	835	833	829	833	833	79
15°	806	806	804	811	810	227
25°	748	750	756	762	764	345
35°	664	669	679	692	695	416
45°	557	566	586	611	621	429
55°	430	446	486	524	542	383
65°	284	313	378	428	448	282
75°	134	183	255	299	308	144
85°	26	54	66	71	74	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	834.6	834.6	834.6	834.6	834.6
2.5°	835.9	835.9	832.0	834.6	834.6
5°	834.6	833.3	829.3	833.3	833.3
7.5°	830.7	829.3	826.7	830.7	829.3
10°	822.8	822.8	820.1	824.1	824.1
12.5°	816.2	814.9	813.5	818.8	817.5
15°	805.6	805.6	804.3	810.9	809.6
17.5°	792.5	793.8	795.1	800.4	801.7
20°	778.0	780.6	782.0	789.8	789.8
22.5°	764.8	766.2	768.8	776.7	776.7
25°	747.7	750.4	755.6	762.2	763.5
27.5°	730.6	731.9	738.5	747.7	749.0
30°	708.2	712.2	720.1	730.6	731.9
32.5°	688.5	692.4	701.6	712.2	714.8
35°	663.5	668.7	679.3	692.4	695.1
37.5°	641.1	645.0	658.2	672.7	676.6
40°	613.4	621.3	634.5	651.6	658.2
42.5°	585.8	593.7	609.5	631.9	639.8
45°	556.8	566.1	585.8	610.8	621.3
47.5°	527.9	538.4	560.8	589.8	601.6
50°	495.0	508.1	535.8	568.7	581.9
52.5°	463.4	479.2	509.5	546.3	563.4
55°	430.5	446.3	485.8	523.9	542.4
57.5°	393.6	414.7	458.1	501.6	521.3
60°	359.4	379.1	431.8	479.2	498.9
62.5°	322.5	348.9	405.5	455.5	475.2
65°	284.3	313.3	377.8	427.8	447.6
67.5°	250.1	281.7	350.2	400.2	419.9
70°	209.3	248.8	319.9	369.9	389.7
72.5°	171.1	214.6	288.3	337.0	355.4
75°	134.3	183.0	255.4	298.8	308.0
77.5°	100.0	151.4	221.2	239.6	233.0
80°	71.1	121.1	172.5	163.2	167.2
82.5°	46.1	92.1	106.6	121.1	125.1
85°	26.3	54.0	65.8	71.1	73.7
87.5°	11.8	19.7	26.3	26.3	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)