

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: P310022

Luminaire Tested: **24FCZ2-40HE-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: P310022
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: 24FCZ2-40HE-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: 2150.0 lumens
Efficiency: N/A
Efficacy: 70.7 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

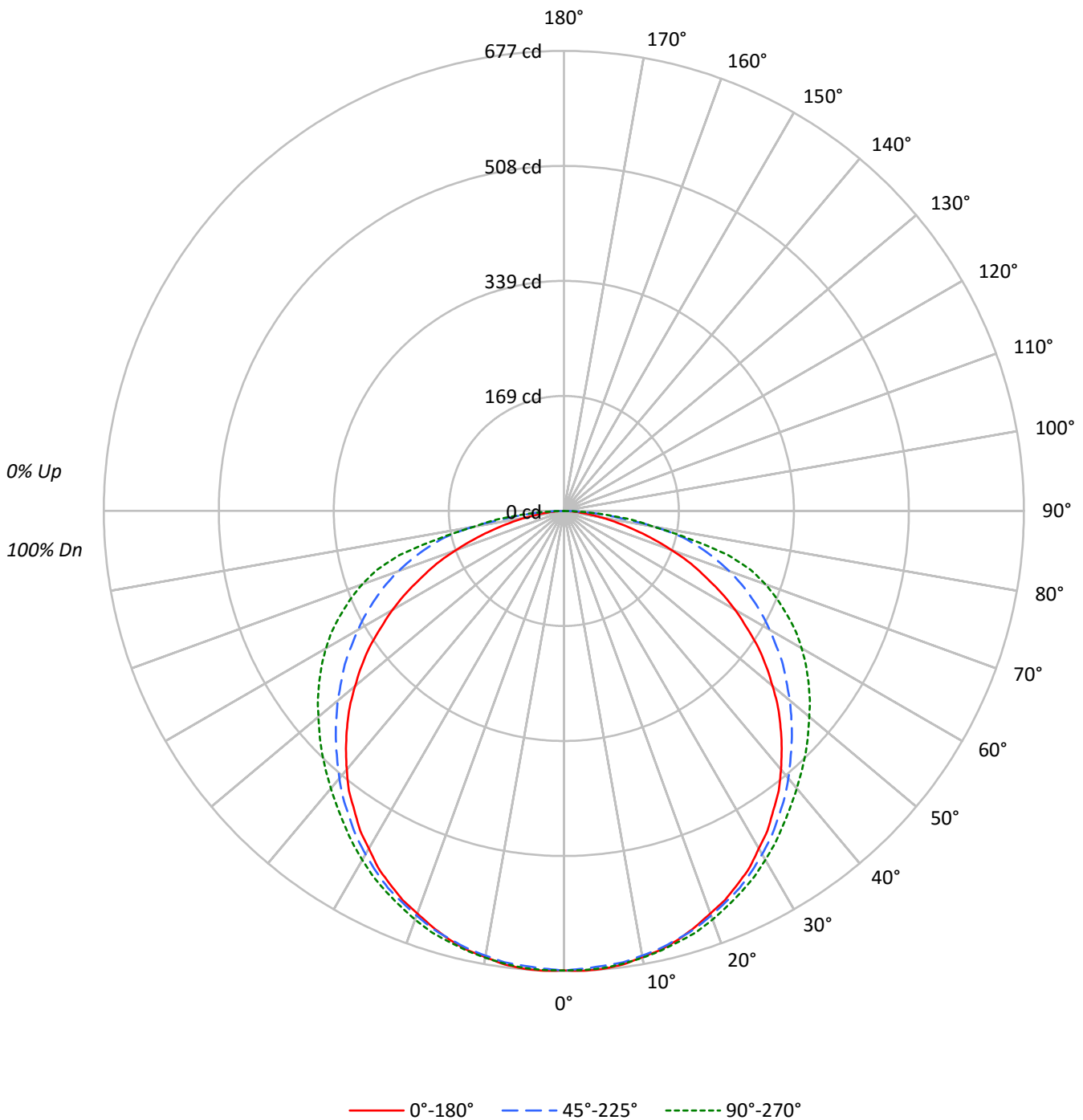
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	68	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°	910	910	910
5°	913	907	912
10°	911	908	912
15°	909	908	914
20°	902	907	916
25°	899	909	918
30°	891	906	921
35°	883	904	925
40°	873	903	937
45°	858	903	958
50°	839	908	987
55°	818	923	1031
60°	783	941	1088
65°	733	975	1154
70°	667	1019	1242
75°	566	1076	1297
80°	446	1082	1049
85°	329	823	922



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.1	3.0
10°-20°	184.6	8.6
20°-30°	282.3	13.1
30°-40°	345.1	16.0
40°-50°	367.8	17.1
50°-60°	351.6	16.4
60°-70°	297.9	13.9
70°-80°	200.2	9.3
80°-90°	56.5	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°	531.0	24.7
0°-40°	876.0	40.7
0°-60°	1595.5	74.2
0°-90°	2150.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2150.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	676	676	676	676	676	
5°	676	675	672	675	675	64
15°	653	653	652	657	656	184
25°	606	608	612	618	618	279
35°	538	542	550	561	563	337
45°	451	459	475	495	503	348
55°	349	362	394	424	439	311
65°	230	254	306	347	363	229
75°	109	148	207	242	250	116
85°	21	44	53	58	60	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	676.1	676.1	676.1	676.1	676.1
2.5°	677.2	677.2	674.0	676.1	676.1
5°	676.1	675.0	671.8	675.0	675.0
7.5°	672.9	671.8	669.7	672.9	671.8
10°	666.5	666.5	664.4	667.6	667.6
12.5°	661.2	660.1	659.1	663.3	662.3
15°	652.7	652.7	651.6	656.9	655.9
17.5°	642.0	643.1	644.1	648.4	649.5
20°	630.3	632.4	633.5	639.9	639.9
22.5°	619.6	620.7	622.8	629.2	629.2
25°	605.7	607.9	612.1	617.5	618.5
27.5°	591.9	592.9	598.3	605.7	606.8
30°	573.7	576.9	583.3	591.9	592.9
32.5°	557.7	560.9	568.4	576.9	579.1
35°	537.5	541.7	550.3	560.9	563.1
37.5°	519.3	522.5	533.2	544.9	548.1
40°	497.0	503.4	514.0	527.9	533.2
42.5°	474.6	481.0	493.8	511.9	518.3
45°	451.1	458.6	474.6	494.8	503.4
47.5°	427.6	436.2	454.3	477.8	487.4
50°	401.0	411.6	434.0	460.7	471.4
52.5°	375.4	388.2	412.7	442.6	456.4
55°	348.7	361.5	393.5	424.4	439.4
57.5°	318.9	335.9	371.1	406.3	422.3
60°	291.1	307.1	349.8	388.2	404.2
62.5°	261.3	282.6	328.5	369.0	385.0
65°	230.3	253.8	306.1	346.6	362.6
67.5°	202.6	228.2	283.7	324.2	340.2
70°	169.6	201.6	259.1	299.7	315.7
72.5°	138.6	173.8	233.5	273.0	287.9
75°	108.8	148.2	206.9	242.1	249.5
77.5°	81.0	122.6	179.2	194.1	188.8
80°	57.6	98.1	139.7	132.2	135.4
82.5°	37.3	74.6	86.4	98.1	101.3
85°	21.3	43.7	53.3	57.6	59.7
87.5°	9.6	16.0	21.3	21.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)