

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: P310026

Luminaire Tested: **24FCZ2-40HE-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: P310026
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2381.0 lumens
Efficiency: N/A
Efficacy: 76.8 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

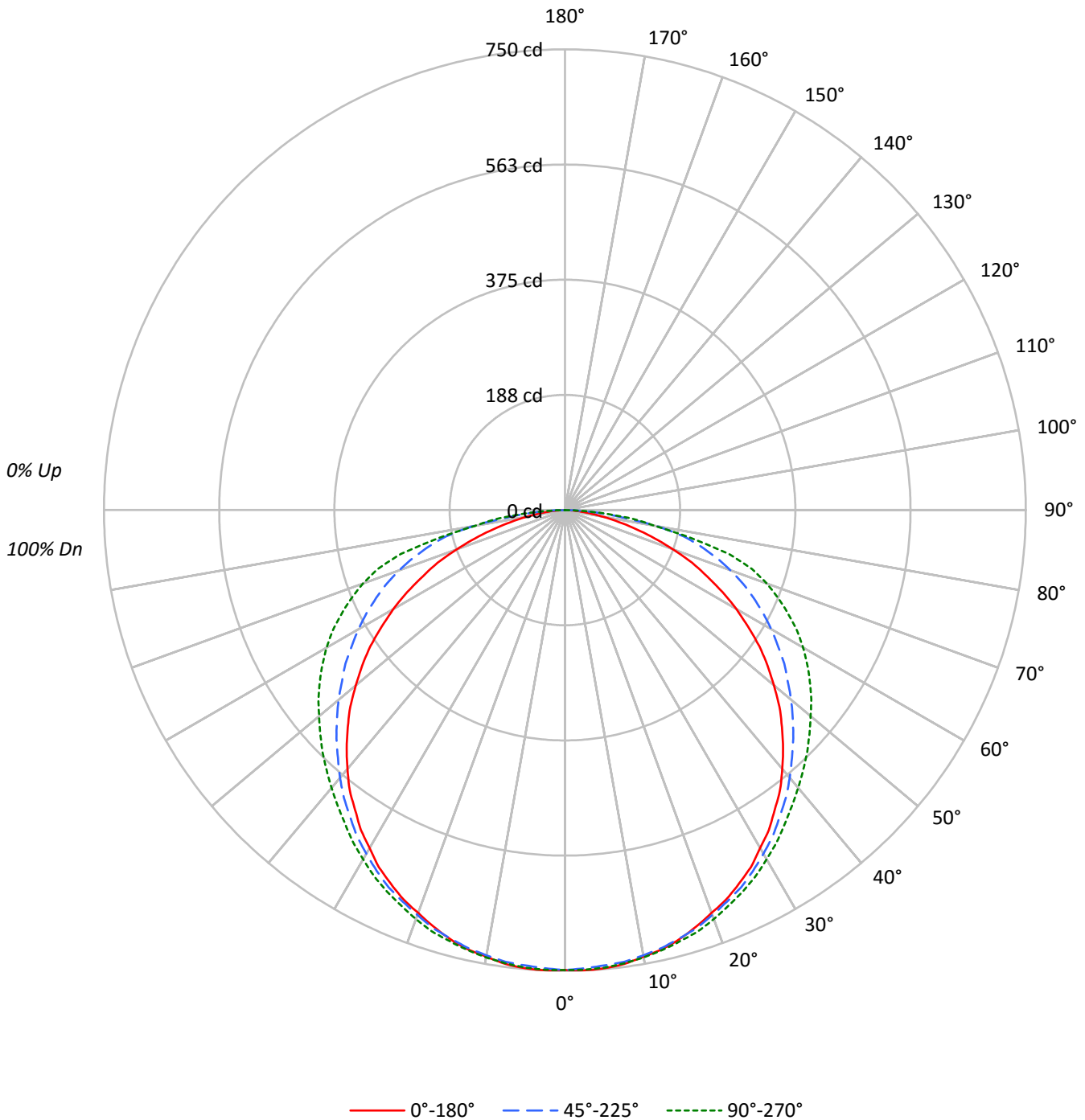
Input Watts (W): 31
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1008	1008	1008
5°	1011	1005	1010
10°	1008	1005	1010
15°	1007	1005	1012
20°	999	1004	1015
25°	996	1006	1017
30°	987	1004	1020
35°	978	1001	1024
40°	967	1000	1037
45°	951	1000	1061
50°	930	1006	1093
55°	906	1022	1141
60°	868	1042	1204
65°	812	1079	1278
70°	739	1129	1375
75°	626	1191	1437
80°	494	1199	1162
85°	364	912	1020



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.0	3.0
10°-20°	204.4	8.6
20°-30°	312.6	13.1
30°-40°	382.1	16.0
40°-50°	407.3	17.1
50°-60°	389.4	16.4
60°-70°	329.9	13.9
70°-80°	221.7	9.3
80°-90°	62.5	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°	588.0	24.7
0°-40°	970.2	40.7
0°-60°	1766.9	74.2
0°-90°	2381.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2381.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	749	749	749	749	749	
5°	749	748	744	748	748	71
15°	723	723	722	728	726	204
25°	671	673	678	684	685	309
35°	595	600	609	621	624	373
45°	500	508	526	548	557	385
55°	386	400	436	470	487	344
65°	255	281	339	384	402	253
75°	120	164	229	268	276	129
85°	24	48	59	64	66	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	748.8	748.8	748.8	748.8	748.8
2.5°	749.9	749.9	746.4	748.8	748.8
5°	748.8	747.6	744.0	747.6	747.6
7.5°	745.2	744.0	741.7	745.2	744.0
10°	738.1	738.1	735.8	739.3	739.3
12.5°	732.2	731.0	729.9	734.6	733.4
15°	722.8	722.8	721.6	727.5	726.3
17.5°	711.0	712.1	713.3	718.1	719.2
20°	698.0	700.3	701.5	708.6	708.6
22.5°	686.2	687.3	689.7	696.8	696.8
25°	670.8	673.2	677.9	683.8	685.0
27.5°	655.5	656.6	662.5	670.8	672.0
30°	635.4	638.9	646.0	655.5	656.6
32.5°	617.7	621.2	629.5	638.9	641.3
35°	595.2	600.0	609.4	621.2	623.6
37.5°	575.1	578.7	590.5	603.5	607.0
40°	550.3	557.4	569.2	584.6	590.5
42.5°	525.5	532.6	546.8	566.9	574.0
45°	499.6	507.8	525.5	548.0	557.4
47.5°	473.6	483.0	503.1	529.1	539.7
50°	444.1	455.9	480.7	510.2	522.0
52.5°	415.7	429.9	457.0	490.1	505.5
55°	386.2	400.4	435.8	470.0	486.6
57.5°	353.1	372.0	411.0	450.0	467.7
60°	322.4	340.1	387.4	429.9	447.6
62.5°	289.3	313.0	363.7	408.6	426.3
65°	255.1	281.1	338.9	383.8	401.5
67.5°	224.4	252.7	314.1	359.0	376.7
70°	187.8	223.2	287.0	331.9	349.6
72.5°	153.5	192.5	258.6	302.3	318.9
75°	120.5	164.2	229.1	268.1	276.4
77.5°	89.8	135.8	198.4	214.9	209.0
80°	63.8	108.7	154.7	146.4	150.0
82.5°	41.3	82.7	95.7	108.7	112.2
85°	23.6	48.4	59.1	63.8	66.1
87.5°	10.6	17.7	23.6	23.6	22.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)