

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: P313531

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-3500K**

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: P313531
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-L83050-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 2344.0 lumens
Efficiency: N/A
Efficacy: 77.1 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

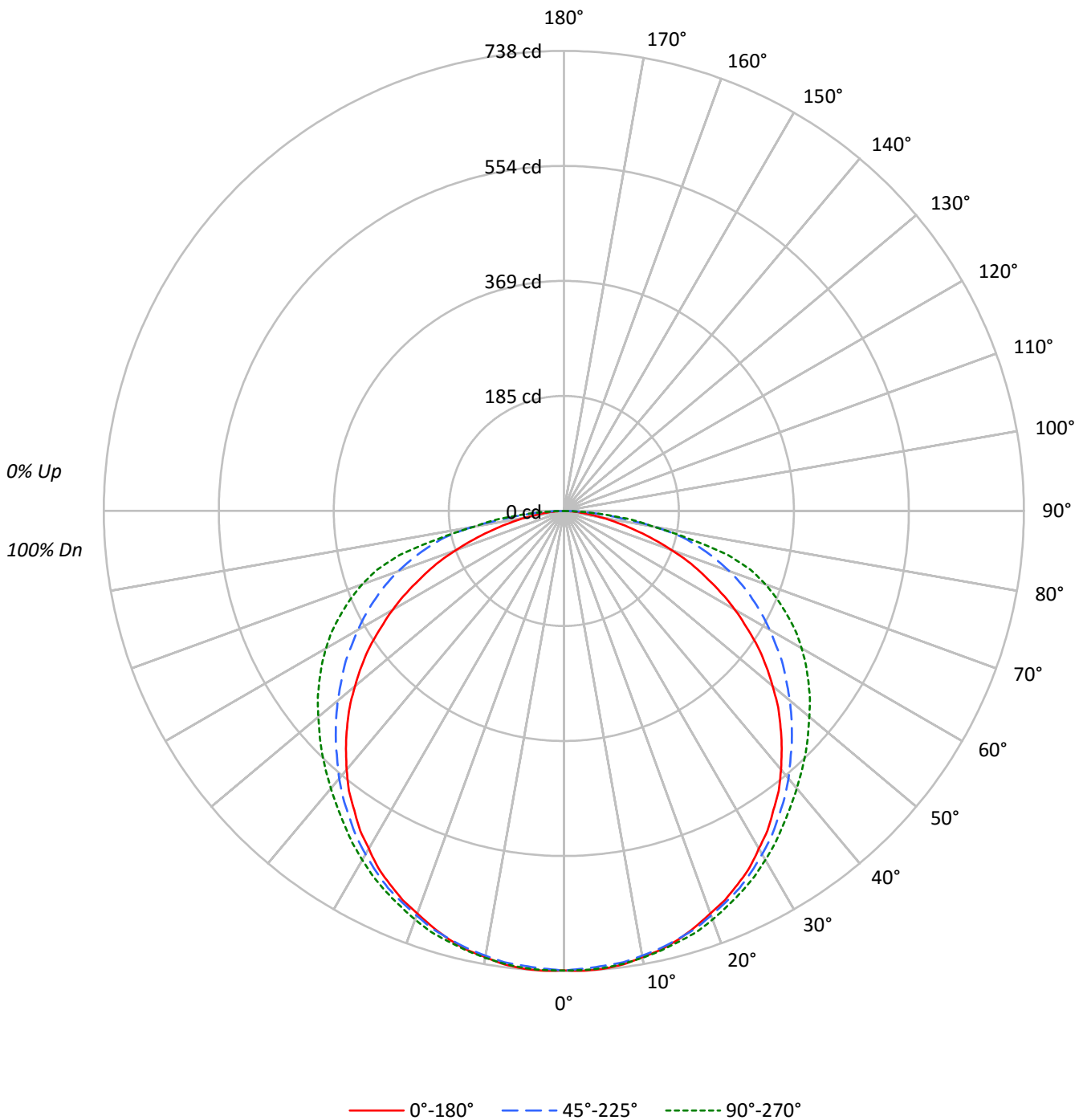
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313531

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P313531

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-3500K

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°	992	992	992
5°	996	989	994
10°	993	990	994
15°	991	990	996
20°	984	989	999
25°	980	991	1001
30°	972	988	1004
35°	963	985	1008
40°	952	984	1021
45°	936	985	1044
50°	915	991	1076
55°	892	1006	1124
60°	854	1026	1186
65°	799	1062	1259
70°	727	1111	1354
75°	617	1173	1415
80°	487	1180	1144
85°	360	897	1005



TEST NUMBER: P313531

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.9	3.0
10°-20°	201.2	8.6
20°-30°	307.7	13.1
30°-40°	376.2	16.0
40°-50°	401.0	17.1
50°-60°	383.4	16.4
60°-70°	324.8	13.9
70°-80°	218.3	9.3
80°-90°	61.6	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°	578.9	24.7
0°-40°	955.1	40.7
0°-60°	1739.4	74.2
0°-90°	2344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2344.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	737	737	737	737	737	
5°	737	736	732	736	736	70
15°	712	712	710	716	715	201
25°	660	663	667	673	674	304
35°	586	591	600	612	614	367
45°	492	500	517	540	549	379
55°	380	394	429	463	479	339
65°	251	277	334	378	395	249
75°	119	162	226	264	272	127
85°	23	48	58	63	65	29
90°	0	0	0	0	0	



TEST NUMBER: P313531

CATALOG NUMBER: 24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	737.1	737.1	737.1	737.1	737.1
2.5°	738.3	738.3	734.8	737.1	737.1
5°	737.1	736.0	732.5	736.0	736.0
7.5°	733.6	732.5	730.1	733.6	732.5
10°	726.7	726.7	724.3	727.8	727.8
12.5°	720.8	719.7	718.5	723.2	722.0
15°	711.5	711.5	710.4	716.2	715.0
17.5°	699.9	701.1	702.2	706.9	708.1
20°	687.1	689.5	690.6	697.6	697.6
22.5°	675.5	676.7	679.0	686.0	686.0
25°	660.4	662.7	667.4	673.2	674.3
27.5°	645.3	646.4	652.2	660.4	661.5
30°	625.5	629.0	636.0	645.3	646.4
32.5°	608.1	611.6	619.7	629.0	631.3
35°	586.0	590.6	599.9	611.6	613.9
37.5°	566.2	569.7	581.3	594.1	597.6
40°	541.8	548.8	560.4	575.5	581.3
42.5°	517.4	524.4	538.3	558.1	565.0
45°	491.8	499.9	517.4	539.5	548.8
47.5°	466.2	475.5	495.3	520.9	531.3
50°	437.2	448.8	473.2	502.3	513.9
52.5°	409.3	423.2	449.9	482.5	497.6
55°	380.2	394.1	429.0	462.7	479.0
57.5°	347.6	366.2	404.6	443.0	460.4
60°	317.4	334.8	381.3	423.2	440.6
62.5°	284.8	308.1	358.1	402.3	419.7
65°	251.1	276.7	333.7	377.9	395.3
67.5°	220.9	248.8	309.3	353.4	370.9
70°	184.9	219.7	282.5	326.7	344.1
72.5°	151.1	189.5	254.6	297.6	313.9
75°	118.6	161.6	225.6	263.9	272.1
77.5°	88.4	133.7	195.3	211.6	205.8
80°	62.8	107.0	152.3	144.2	147.7
82.5°	40.7	81.4	94.2	107.0	110.5
85°	23.3	47.7	58.1	62.8	65.1
87.5°	10.5	17.4	23.3	23.3	22.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)