

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: P313534

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-5000K**

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: P313534
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 2484.0 lumens
Efficiency: N/A
Efficacy: 77.9 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

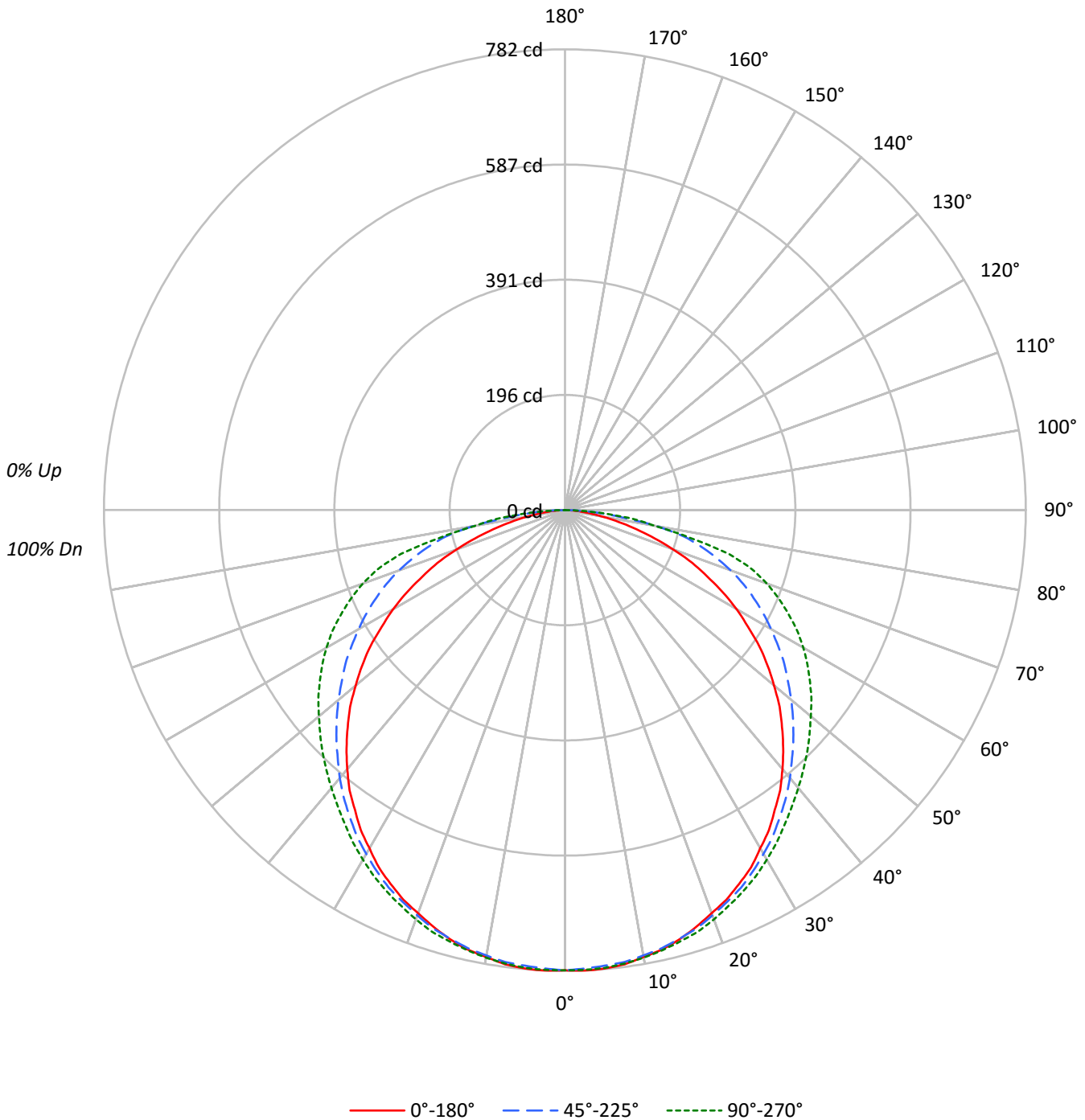
Input Watts (W): 31.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1051	1051	1051
5°	1055	1048	1053
10°	1052	1049	1054
15°	1050	1049	1055
20°	1043	1048	1059
25°	1039	1050	1061
30°	1030	1047	1064
35°	1020	1044	1068
40°	1009	1043	1082
45°	992	1043	1106
50°	970	1050	1140
55°	945	1066	1191
60°	905	1087	1257
65°	847	1126	1334
70°	771	1178	1435
75°	653	1242	1499
80°	515	1251	1213
85°	380	951	1065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.1	3.0
10°-20°	213.3	8.6
20°-30°	326.1	13.1
30°-40°	398.7	16.0
40°-50°	424.9	17.1
50°-60°	406.3	16.4
60°-70°	344.2	13.9
70°-80°	231.3	9.3
80°-90°	65.2	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°	613.5	24.7
0°-40°	1012.1	40.7
0°-60°	1843.3	74.2
0°-90°	2484.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2484.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	781	781	781	781	781	
5°	781	780	776	780	780	74
15°	754	754	753	759	758	213
25°	700	702	707	713	715	323
35°	621	626	636	648	650	389
45°	521	530	548	572	582	402
55°	403	418	455	490	508	359
65°	266	293	354	400	419	264
75°	126	171	239	280	288	135
85°	25	50	62	66	69	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	781.1	781.1	781.1	781.1	781.1
2.5°	782.4	782.4	778.7	781.1	781.1
5°	781.1	779.9	776.2	779.9	779.9
7.5°	777.5	776.2	773.8	777.5	776.2
10°	770.1	770.1	767.6	771.3	771.3
12.5°	763.9	762.7	761.4	766.4	765.1
15°	754.0	754.0	752.8	759.0	757.7
17.5°	741.7	743.0	744.2	749.1	750.3
20°	728.2	730.6	731.9	739.3	739.3
22.5°	715.8	717.1	719.5	726.9	726.9
25°	699.8	702.3	707.2	713.4	714.6
27.5°	683.8	685.0	691.2	699.8	701.1
30°	662.9	666.6	674.0	683.8	685.0
32.5°	644.4	648.1	656.7	666.6	669.0
35°	621.0	625.9	635.8	648.1	650.5
37.5°	600.0	603.7	616.0	629.6	633.3
40°	574.2	581.5	593.9	609.9	616.0
42.5°	548.3	555.7	570.5	591.4	598.8
45°	521.2	529.8	548.3	571.7	581.5
47.5°	494.1	503.9	524.9	552.0	563.1
50°	463.3	475.6	501.5	532.3	544.6
52.5°	433.7	448.5	476.8	511.3	527.3
55°	402.9	417.7	454.6	490.4	507.6
57.5°	368.4	388.1	428.8	469.4	487.9
60°	336.4	354.8	404.1	448.5	467.0
62.5°	301.9	326.5	379.5	426.3	444.8
65°	266.1	293.2	353.6	400.4	418.9
67.5°	234.1	263.7	327.7	374.6	393.0
70°	195.9	232.9	299.4	346.2	364.7
72.5°	160.2	200.8	269.8	315.4	332.7
75°	125.7	171.3	239.0	279.7	288.3
77.5°	93.6	141.7	207.0	224.2	218.1
80°	66.5	113.4	161.4	152.8	156.5
82.5°	43.1	86.2	99.8	113.4	117.0
85°	24.6	50.5	61.6	66.5	69.0
87.5°	11.1	18.5	24.6	24.6	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)