

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: P313180

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P313180
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L83050-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 3000K 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: 2542.0 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

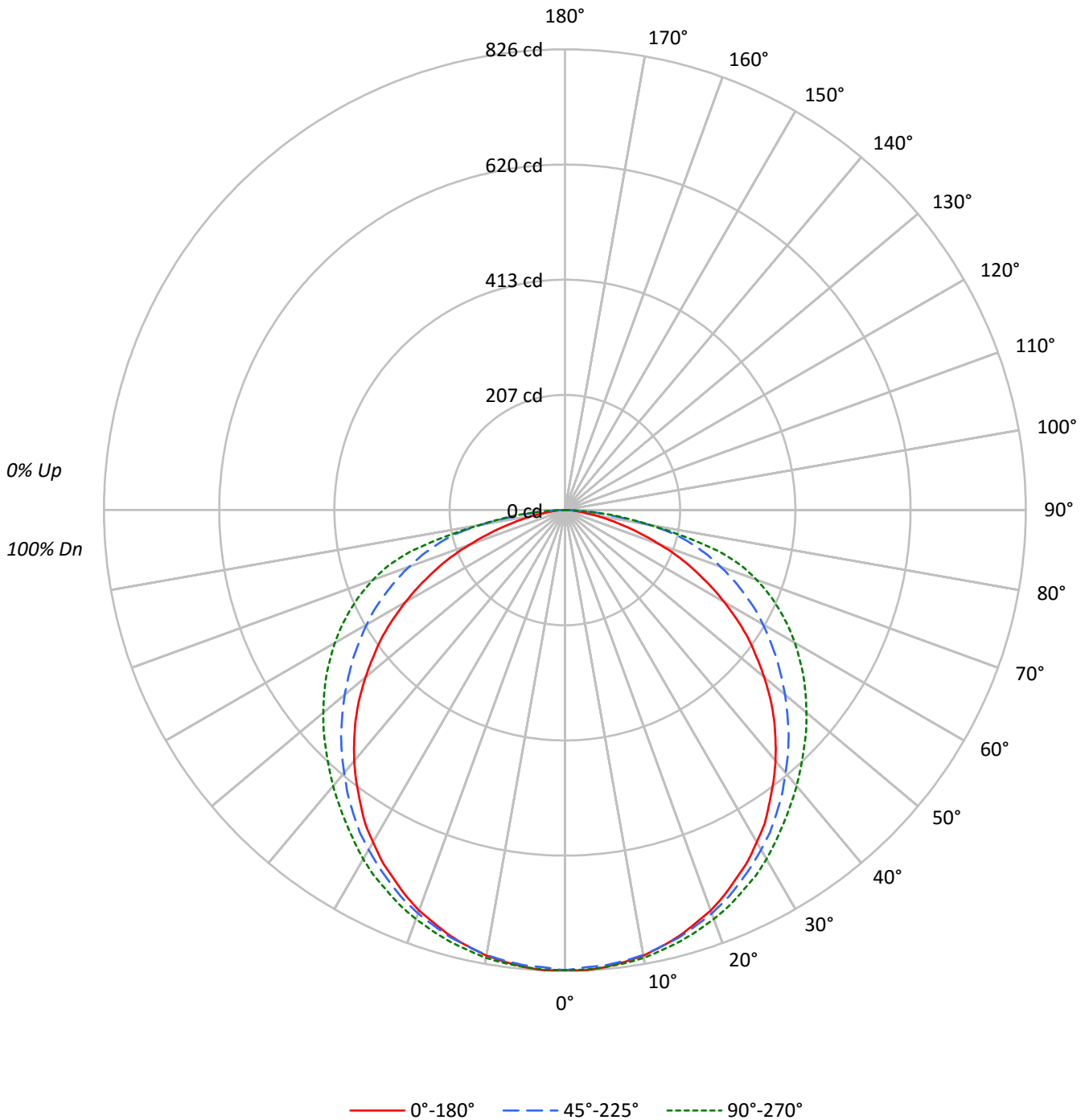
Input Watts (W): 32.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1110	1110	1110
5°	1111	1107	1111
10°	1108	1107	1114
15°	1101	1104	1115
20°	1094	1102	1117
25°	1081	1097	1119
30°	1068	1093	1123
35°	1051	1087	1124
40°	1032	1080	1135
45°	1008	1079	1152
50°	976	1078	1183
55°	941	1086	1226
60°	888	1102	1280
65°	820	1128	1352
70°	716	1168	1440
75°	581	1228	1488
80°	428	1204	1204
85°	329	888	1002



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.1	3.1
10°-20°	224.4	8.8
20°-30°	341.6	13.4
30°-40°	414.7	16.3
40°-50°	438.2	17.2
50°-60°	413.5	16.3
60°-70°	343.8	13.5
70°-80°	226.2	8.9
80°-90°	61.7	2.4
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°	644.1	25.3
0°-40°	1058.8	41.7
0°-60°	1910.4	75.2
0°-90°	2542.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2542.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	823	823	819	823	823	78
15°	791	792	793	800	800	223
25°	728	732	739	751	754	336
35°	640	647	662	679	684	400
45°	530	541	567	595	606	408
55°	401	418	463	507	522	357
65°	258	287	354	406	425	255
75°	112	163	236	280	286	120
85°	21	47	58	64	65	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	824.8	824.8	824.8	824.8	824.8
2.5°	825.8	824.8	820.5	824.8	824.8
5°	822.6	822.6	819.4	822.6	822.6
7.5°	817.3	817.3	815.2	819.4	819.4
10°	810.9	810.9	809.9	815.2	815.2
12.5°	801.3	802.4	801.3	807.7	807.7
15°	790.7	791.8	792.8	800.3	800.3
17.5°	776.9	779.0	781.1	789.6	790.7
20°	764.1	765.2	769.4	779.0	780.1
22.5°	747.1	750.3	755.6	765.2	768.4
25°	727.9	732.2	738.6	751.3	753.5
27.5°	709.8	713.0	721.5	735.4	739.6
30°	687.5	692.8	703.4	717.3	722.6
32.5°	666.2	671.5	684.3	699.2	703.4
35°	639.6	647.0	661.9	679.0	684.3
37.5°	614.0	621.5	639.6	658.7	665.1
40°	587.4	596.0	615.1	637.5	646.0
42.5°	558.7	570.4	591.7	616.2	625.7
45°	530.0	540.6	567.2	594.9	605.5
47.5°	499.1	511.9	540.6	573.6	586.4
50°	466.1	482.1	515.1	551.3	565.1
52.5°	433.1	451.2	488.5	528.9	543.8
55°	401.2	418.2	462.9	506.6	522.5
57.5°	366.1	387.4	436.3	483.1	499.1
60°	329.9	353.3	409.7	458.7	475.7
62.5°	293.7	320.3	384.2	433.1	451.2
65°	257.5	287.3	354.4	406.5	424.6
67.5°	222.4	255.4	326.7	378.9	396.9
70°	182.0	223.5	296.9	348.0	366.1
72.5°	144.7	192.6	268.2	316.1	332.0
75°	111.7	162.8	236.3	279.9	286.3
77.5°	81.9	133.0	203.3	218.2	219.2
80°	55.3	106.4	155.4	153.2	155.4
82.5°	36.2	79.8	97.9	109.6	110.7
85°	21.3	46.8	57.5	63.9	64.9
87.5°	10.6	16.0	20.2	21.3	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)