

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: P313590

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-CA08-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: P313590
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: 24FCZ2-45-UNV-L83050-RDP-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 2634.0 lumens
Efficiency: N/A
Efficacy: 70.2 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

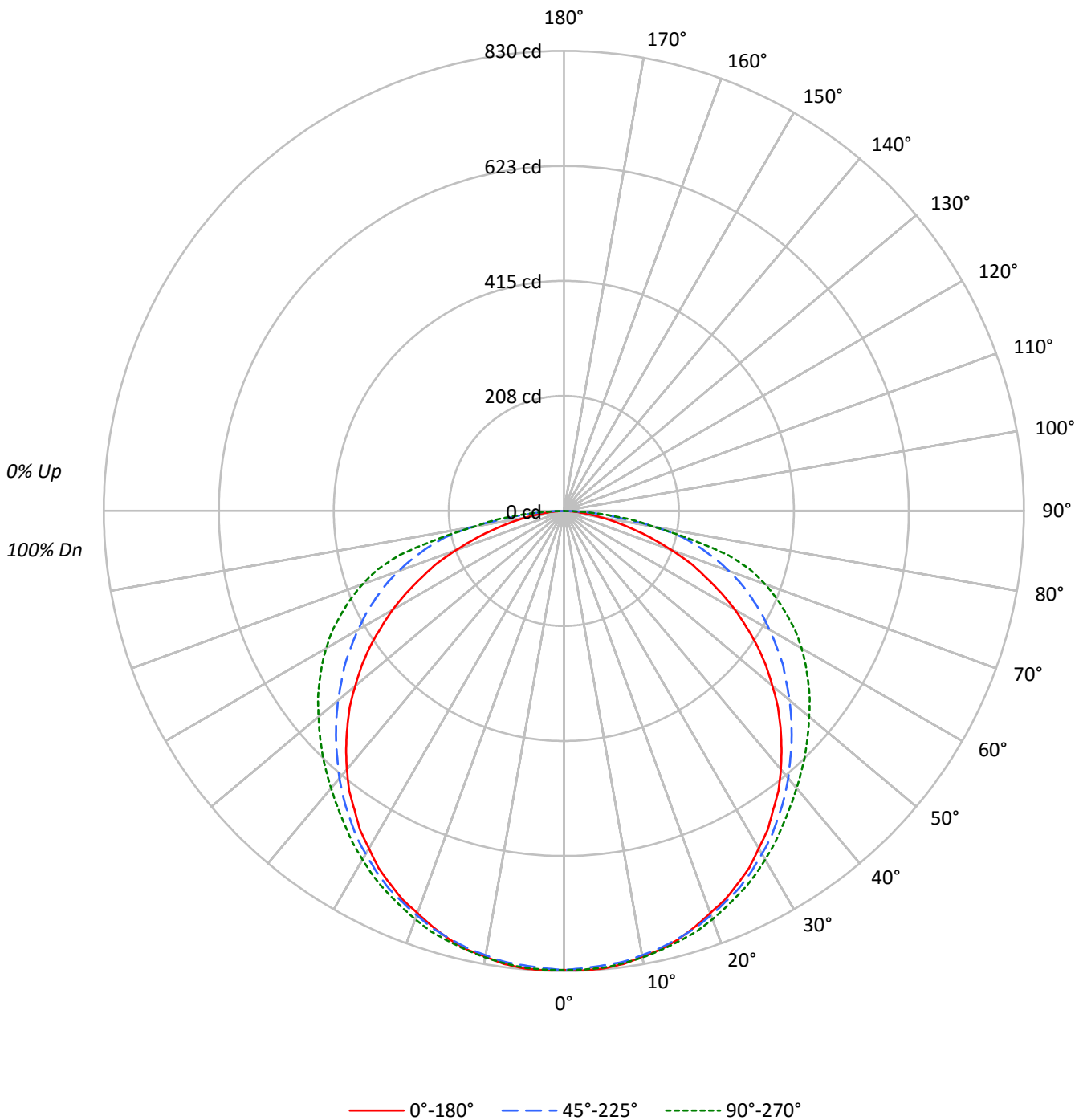
Input Watts (W): 37.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1114	1114	1114
5°	1119	1112	1117
10°	1116	1112	1117
15°	1114	1112	1119
20°	1106	1111	1122
25°	1102	1113	1125
30°	1092	1110	1129
35°	1082	1107	1133
40°	1069	1106	1147
45°	1051	1106	1173
50°	1028	1113	1209
55°	1002	1131	1263
60°	960	1153	1333
65°	898	1194	1414
70°	817	1249	1521
75°	693	1318	1589
80°	547	1327	1285
85°	403	1008	1130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.6	3.0
10°-20°	226.1	8.6
20°-30°	345.8	13.1
30°-40°	422.7	16.0
40°-50°	450.6	17.1
50°-60°	430.8	16.4
60°-70°	364.9	13.9
70°-80°	245.3	9.3
80°-90°	69.2	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°	650.5	24.7
0°-40°	1073.3	40.7
0°-60°	1954.6	74.2
0°-90°	2634.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2634.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	827	823	827	827	79
15°	800	800	798	805	804	225
25°	742	745	750	756	758	342
35°	658	664	674	687	690	413
45°	553	562	581	606	617	426
55°	427	443	482	520	538	380
65°	282	311	375	425	444	280
75°	133	182	254	297	306	143
85°	26	54	65	71	73	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	828.3	828.3	828.3	828.3	828.3
2.5°	829.6	829.6	825.7	828.3	828.3
5°	828.3	827.0	823.1	827.0	827.0
7.5°	824.4	823.1	820.5	824.4	823.1
10°	816.6	816.6	813.9	817.9	817.9
12.5°	810.0	808.7	807.4	812.6	811.3
15°	799.6	799.6	798.3	804.8	803.5
17.5°	786.5	787.8	789.1	794.3	795.7
20°	772.1	774.8	776.1	783.9	783.9
22.5°	759.1	760.4	763.0	770.8	770.8
25°	742.1	744.7	749.9	756.5	757.8
27.5°	725.1	726.4	732.9	742.1	743.4
30°	702.9	706.8	714.7	725.1	726.4
32.5°	683.3	687.2	696.4	706.8	709.4
35°	658.5	663.7	674.2	687.2	689.8
37.5°	636.3	640.2	653.2	667.6	671.5
40°	608.8	616.7	629.7	646.7	653.2
42.5°	581.4	589.2	604.9	627.1	635.0
45°	552.6	561.8	581.4	606.2	616.7
47.5°	523.9	534.4	556.6	585.3	597.1
50°	491.2	504.3	531.7	564.4	577.5
52.5°	459.9	475.6	505.6	542.2	559.2
55°	427.2	442.9	482.1	520.0	538.3
57.5°	390.6	411.5	454.7	497.8	517.4
60°	356.7	376.3	428.5	475.6	495.2
62.5°	320.1	346.2	402.4	452.0	471.6
65°	282.2	310.9	375.0	424.6	444.2
67.5°	248.2	279.6	347.5	397.2	416.8
70°	207.7	246.9	317.5	367.1	386.7
72.5°	169.8	213.0	286.1	334.5	352.8
75°	133.3	181.6	253.5	296.6	305.7
77.5°	99.3	150.2	219.5	237.8	231.2
80°	70.6	120.2	171.2	162.0	165.9
82.5°	45.7	91.5	105.8	120.2	124.1
85°	26.1	53.6	65.3	70.6	73.2
87.5°	11.8	19.6	26.1	26.1	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)