

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: P313610

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-CP250-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: P313610
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" 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: 2444.0 lumens
Efficiency: N/A
Efficacy: 65.2 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

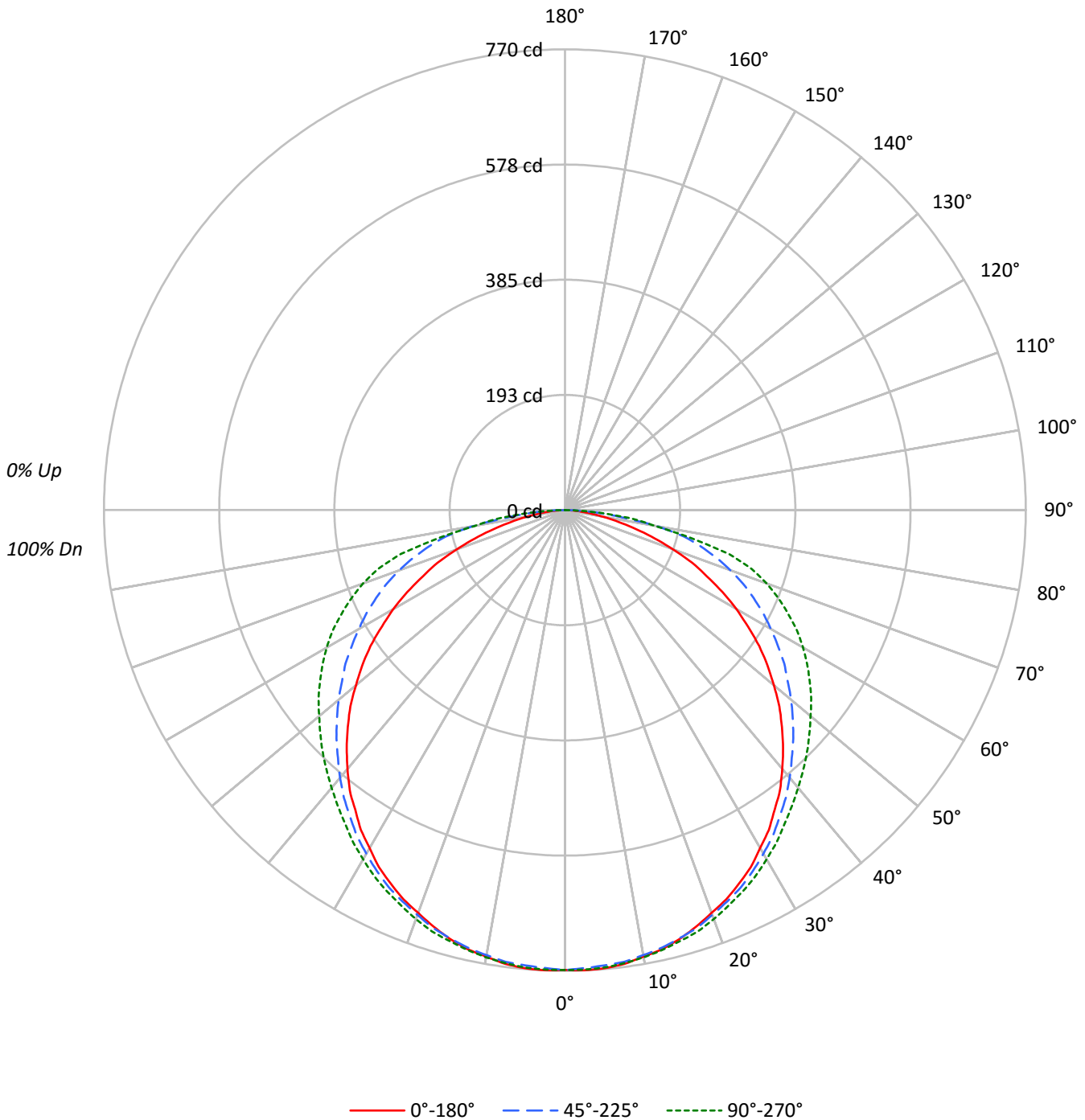
Input Watts (W): 37.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1034	1034	1034
5°	1038	1031	1036
10°	1035	1032	1037
15°	1033	1032	1038
20°	1026	1031	1042
25°	1022	1033	1044
30°	1013	1030	1047
35°	1004	1027	1051
40°	992	1026	1065
45°	976	1027	1089
50°	954	1033	1122
55°	930	1049	1171
60°	890	1070	1236
65°	833	1108	1312
70°	758	1159	1412
75°	643	1223	1475
80°	508	1230	1193
85°	374	936	1048



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.9	3.0
10°-20°	209.8	8.6
20°-30°	320.9	13.1
30°-40°	392.2	16.0
40°-50°	418.1	17.1
50°-60°	399.7	16.4
60°-70°	338.6	13.9
70°-80°	227.6	9.3
80°-90°	64.2	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°	603.6	24.7
0°-40°	995.8	40.7
0°-60°	1813.6	74.2
0°-90°	2444.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2444.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	769	769	769	769	769	
5°	769	767	764	767	767	73
15°	742	742	741	747	746	209
25°	689	691	696	702	703	317
35°	611	616	626	638	640	383
45°	513	521	540	562	572	396
55°	396	411	447	482	499	353
65°	262	288	348	394	412	260
75°	124	168	235	275	284	132
85°	24	50	61	66	68	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	768.6	768.6	768.6	768.6	768.6
2.5°	769.8	769.8	766.1	768.6	768.6
5°	768.6	767.4	763.7	767.4	767.4
7.5°	764.9	763.7	761.3	764.9	763.7
10°	757.7	757.7	755.2	758.9	758.9
12.5°	751.6	750.4	749.2	754.0	752.8
15°	741.9	741.9	740.7	746.7	745.5
17.5°	729.8	731.0	732.2	737.0	738.3
20°	716.4	718.9	720.1	727.4	727.4
22.5°	704.3	705.5	708.0	715.2	715.2
25°	688.6	691.0	695.8	701.9	703.1
27.5°	672.8	674.0	680.1	688.6	689.8
30°	652.2	655.8	663.1	672.8	674.0
32.5°	634.0	637.6	646.1	655.8	658.3
35°	611.0	615.8	625.5	637.6	640.1
37.5°	590.4	594.0	606.1	619.5	623.1
40°	564.9	572.2	584.3	600.1	606.1
42.5°	539.5	546.7	561.3	581.9	589.2
45°	512.8	521.3	539.5	562.5	572.2
47.5°	486.1	495.8	516.4	543.1	554.0
50°	455.8	467.9	493.4	523.7	535.8
52.5°	426.7	441.3	469.1	503.1	518.8
55°	396.4	411.0	447.3	482.5	499.4
57.5°	362.5	381.9	421.9	461.9	480.1
60°	330.9	349.1	397.6	441.3	459.4
62.5°	297.0	321.2	373.4	419.4	437.6
65°	261.8	288.5	347.9	394.0	412.2
67.5°	230.3	259.4	322.5	368.5	386.7
70°	192.7	229.1	294.6	340.6	358.8
72.5°	157.6	197.6	265.5	310.3	327.3
75°	123.6	168.5	235.2	275.2	283.7
77.5°	92.1	139.4	203.7	220.6	214.6
80°	65.5	111.5	158.8	150.3	154.0
82.5°	42.4	84.9	98.2	111.5	115.2
85°	24.2	49.7	60.6	65.5	67.9
87.5°	10.9	18.2	24.2	24.2	23.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)