

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: P313611

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-CP250-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: P313611
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (168) 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: 2586.0 lumens
Efficiency: N/A
Efficacy: 68.8 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

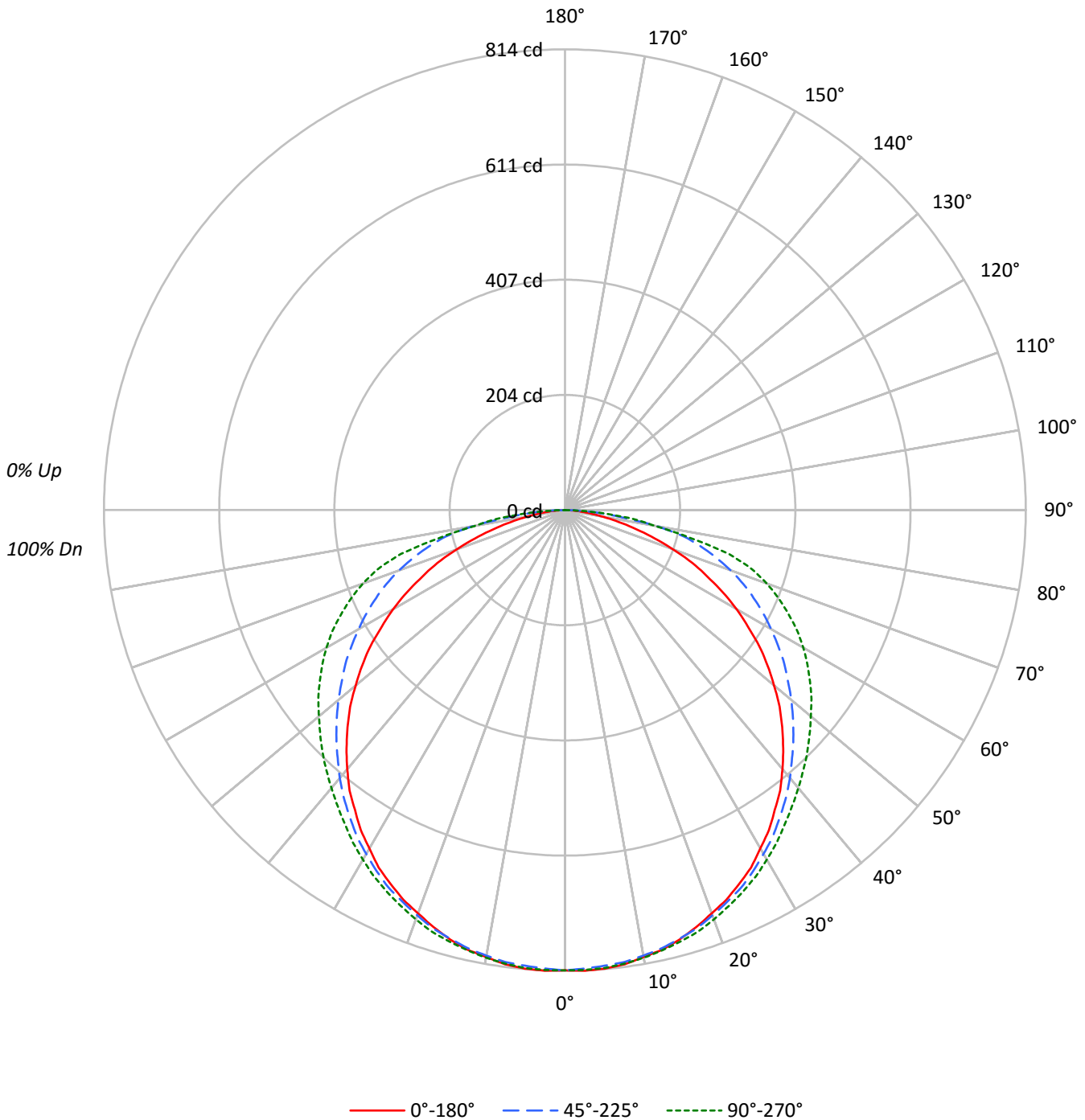
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1094	1094	1094
5°	1098	1091	1097
10°	1095	1092	1097
15°	1093	1092	1099
20°	1085	1091	1102
25°	1082	1093	1105
30°	1072	1090	1108
35°	1062	1087	1112
40°	1050	1086	1126
45°	1032	1086	1152
50°	1010	1093	1187
55°	984	1110	1240
60°	942	1132	1308
65°	882	1172	1388
70°	802	1226	1494
75°	680	1293	1560
80°	537	1302	1262
85°	397	990	1108



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.1	3.0
10°-20°	222.0	8.6
20°-30°	339.5	13.1
30°-40°	415.0	16.0
40°-50°	442.4	17.1
50°-60°	422.9	16.4
60°-70°	358.3	13.9
70°-80°	240.8	9.3
80°-90°	67.9	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°	638.7	24.7
0°-40°	1053.7	40.7
0°-60°	1919.0	74.2
0°-90°	2586.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2586.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	813	813	813	813	813	
5°	813	812	808	812	812	77
15°	785	785	784	790	789	221
25°	729	731	736	743	744	336
35°	646	652	662	675	677	405
45°	543	552	571	595	605	419
55°	419	435	473	510	528	374
65°	277	305	368	417	436	275
75°	131	178	249	291	300	140
85°	26	53	64	69	72	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	813.2	813.2	813.2	813.2	813.2
2.5°	814.5	814.5	810.7	813.2	813.2
5°	813.2	811.9	808.1	811.9	811.9
7.5°	809.4	808.1	805.5	809.4	808.1
10°	801.7	801.7	799.1	803.0	803.0
12.5°	795.3	794.0	792.7	797.8	796.5
15°	785.0	785.0	783.7	790.1	788.9
17.5°	772.2	773.5	774.7	779.9	781.2
20°	758.1	760.6	761.9	769.6	769.6
22.5°	745.2	746.5	749.1	756.8	756.8
25°	728.6	731.1	736.3	742.7	744.0
27.5°	711.9	713.2	719.6	728.6	729.8
30°	690.1	693.9	701.6	711.9	713.2
32.5°	670.8	674.7	683.7	693.9	696.5
35°	646.5	651.6	661.9	674.7	677.3
37.5°	624.7	628.5	641.3	655.5	659.3
40°	597.7	605.4	618.3	634.9	641.3
42.5°	570.8	578.5	593.9	615.7	623.4
45°	542.6	551.6	570.8	595.2	605.4
47.5°	514.4	524.6	546.4	574.6	586.2
50°	482.3	495.1	522.1	554.1	566.9
52.5°	451.5	466.9	496.4	532.3	549.0
55°	419.4	434.8	473.3	510.5	528.5
57.5°	383.5	404.0	446.4	488.7	507.9
60°	350.2	369.4	420.7	466.9	486.1
62.5°	314.3	339.9	395.1	443.8	463.0
65°	277.1	305.3	368.1	416.9	436.1
67.5°	243.7	274.5	341.2	389.9	409.2
70°	203.9	242.4	311.7	360.4	379.7
72.5°	166.7	209.1	280.9	328.4	346.3
75°	130.8	178.3	248.8	291.2	300.1
77.5°	97.5	147.5	215.5	233.4	227.0
80°	69.3	118.0	168.0	159.1	162.9
82.5°	44.9	89.8	103.9	118.0	121.9
85°	25.7	52.6	64.1	69.3	71.8
87.5°	11.5	19.2	25.7	25.7	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)