

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: P310168

Luminaire Tested: **24FCZ2-45-UNV-L82765-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: P310168  
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-L82765-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: 2526.0 lumens  
Efficiency: N/A  
Efficacy: 66.8 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

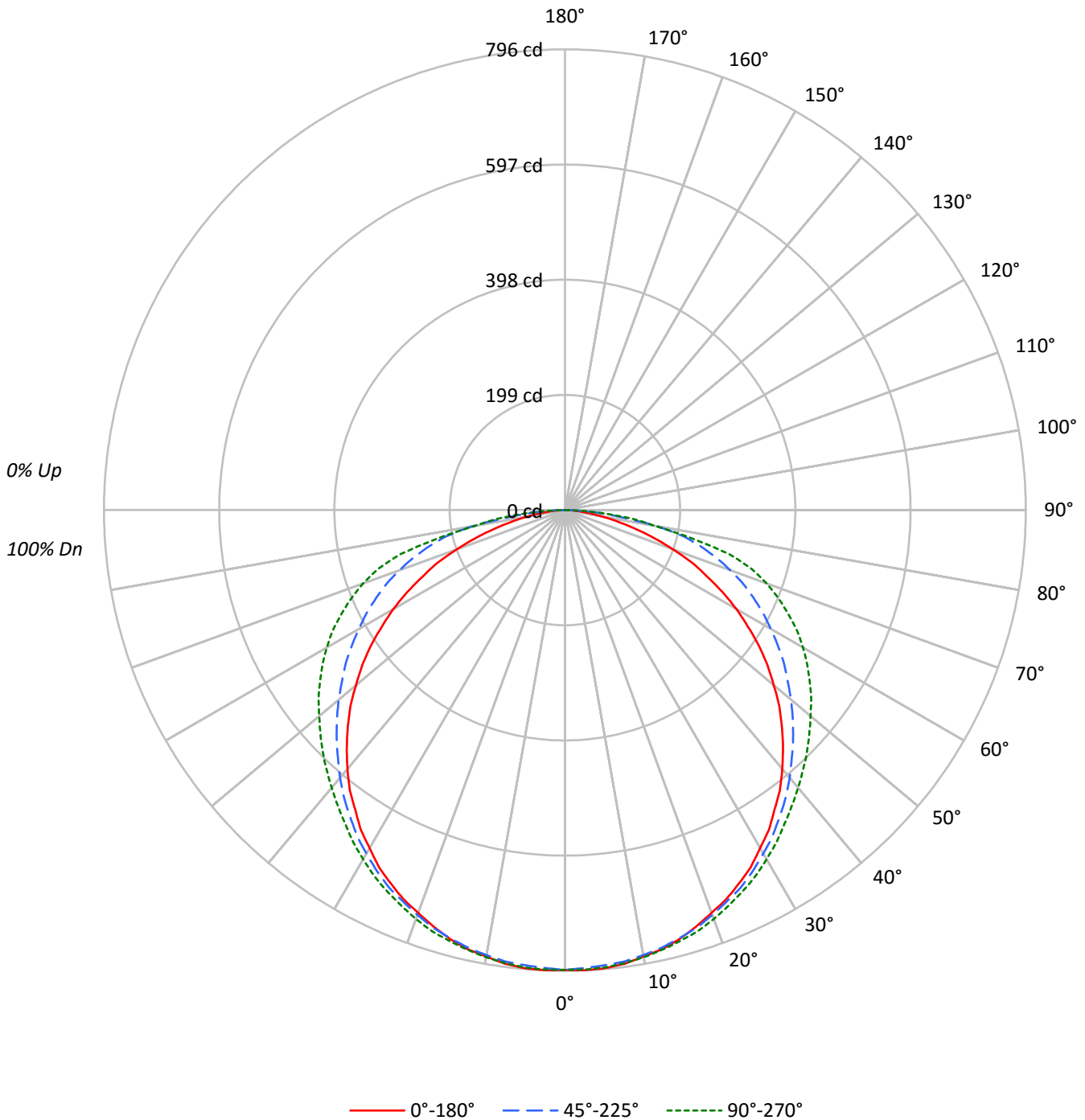
Input Watts (W): 37.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1069	1069	1069
5°	1073	1066	1071
10°	1070	1066	1072
15°	1068	1066	1073
20°	1060	1066	1076
25°	1057	1068	1079
30°	1047	1065	1082
35°	1037	1062	1087
40°	1026	1061	1100
45°	1008	1061	1125
50°	986	1067	1159
55°	961	1084	1211
60°	920	1106	1278
65°	862	1145	1356
70°	784	1198	1459
75°	664	1264	1524
80°	525	1272	1233
85°	387	966	1084



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.4	3.0
10°-20°	216.9	8.6
20°-30°	331.6	13.1
30°-40°	405.4	16.0
40°-50°	432.1	17.1
50°-60°	413.1	16.4
60°-70°	350.0	13.9
70°-80°	235.2	9.3
80°-90°	66.4	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°	623.8	24.7
0°-40°	1029.3	40.7
0°-60°	1874.5	74.2
0°-90°	2526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2526.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	794	793	789	793	793	75
15°	767	767	766	772	770	216
25°	712	714	719	725	727	328
35°	632	636	646	659	662	396
45°	530	539	558	581	591	409
55°	410	425	462	499	516	365
65°	271	298	360	407	426	269
75°	128	174	243	284	293	137
85°	25	51	63	68	70	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	794.4	794.4	794.4	794.4	794.4
2.5°	795.6	795.6	791.8	794.4	794.4
5°	794.4	793.1	789.3	793.1	793.1
7.5°	790.6	789.3	786.8	790.6	789.3
10°	783.1	783.1	780.6	784.3	784.3
12.5°	776.8	775.6	774.3	779.3	778.1
15°	766.8	766.8	765.5	771.8	770.5
17.5°	754.3	755.5	756.8	761.8	763.0
20°	740.5	743.0	744.2	751.8	751.8
22.5°	727.9	729.2	731.7	739.2	739.2
25°	711.7	714.2	719.2	725.4	726.7
27.5°	695.4	696.6	702.9	711.7	712.9
30°	674.1	677.8	685.4	695.4	696.6
32.5°	655.3	659.0	667.8	677.8	680.3
35°	631.5	636.5	646.5	659.0	661.5
37.5°	610.2	613.9	626.5	640.2	644.0
40°	583.9	591.4	603.9	620.2	626.5
42.5°	557.6	565.1	580.1	601.4	608.9
45°	530.0	538.8	557.6	581.4	591.4
47.5°	502.4	512.4	533.7	561.3	572.6
50°	471.1	483.6	509.9	541.3	553.8
52.5°	441.0	456.1	484.9	520.0	536.3
55°	409.7	424.7	462.3	498.7	516.2
57.5°	374.6	394.7	436.0	477.4	496.2
60°	342.0	360.8	411.0	456.1	474.9
62.5°	307.0	332.0	385.9	433.5	452.3
65°	270.6	298.2	359.6	407.2	426.0
67.5°	238.1	268.1	333.3	380.9	399.7
70°	199.2	236.8	304.5	352.1	370.9
72.5°	162.9	204.2	274.4	320.7	338.3
75°	127.8	174.2	243.1	284.4	293.2
77.5°	95.2	144.1	210.5	228.0	221.8
80°	67.7	115.3	164.1	155.4	159.1
82.5°	43.9	87.7	101.5	115.3	119.0
85°	25.1	51.4	62.6	67.7	70.2
87.5°	11.3	18.8	25.1	25.1	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)