

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: P313236

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-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: P313236  
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: 24FCZ2-45-UNV-L83050-HRP-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 2987.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 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

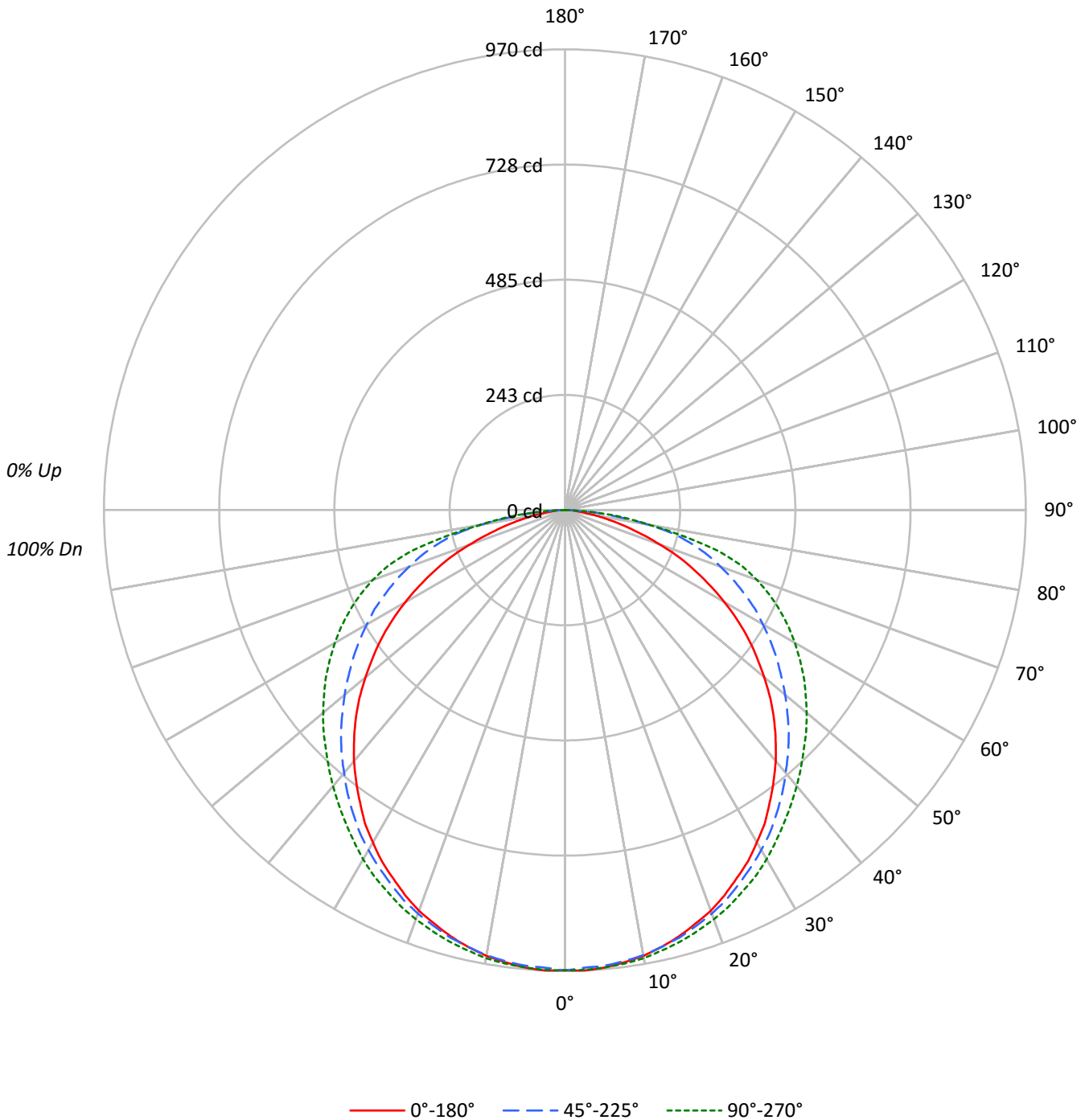
Input Watts (W): 37.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1304	1304	1304
5°	1306	1301	1306
10°	1302	1300	1309
15°	1294	1298	1310
20°	1286	1295	1312
25°	1270	1288	1314
30°	1255	1284	1319
35°	1234	1278	1321
40°	1212	1270	1333
45°	1185	1268	1354
50°	1146	1267	1390
55°	1106	1276	1440
60°	1043	1295	1504
65°	963	1326	1588
70°	841	1373	1692
75°	683	1443	1749
80°	504	1415	1415
85°	386	1042	1178



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.8	3.1
10°-20°	263.6	8.8
20°-30°	401.4	13.4
30°-40°	487.3	16.3
40°-50°	514.9	17.2
50°-60°	485.8	16.3
60°-70°	404.0	13.5
70°-80°	265.8	8.9
80°-90°	72.4	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°	756.8	25.3
0°-40°	1244.1	41.7
0°-60°	2244.9	75.2
0°-90°	2987.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2987.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	969	969	969	969	969	
5°	967	967	963	967	967	92
15°	929	930	932	940	940	262
25°	855	860	868	883	885	395
35°	752	760	778	798	804	470
45°	623	635	666	699	712	480
55°	471	491	544	595	614	420
65°	303	338	416	478	499	299
75°	131	191	278	329	336	141
85°	25	55	68	75	76	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	969.1	969.1	969.1	969.1	969.1
2.5°	970.4	969.1	964.1	969.1	969.1
5°	966.6	966.6	962.9	966.6	966.6
7.5°	960.4	960.4	957.9	962.9	962.9
10°	952.9	952.9	951.6	957.9	957.9
12.5°	941.6	942.9	941.6	949.1	949.1
15°	929.1	930.4	931.6	940.4	940.4
17.5°	912.9	915.4	917.9	927.9	929.1
20°	897.9	899.1	904.1	915.4	916.6
22.5°	877.8	881.6	887.9	899.1	902.9
25°	855.3	860.3	867.8	882.9	885.4
27.5°	834.1	837.8	847.8	864.1	869.1
30°	807.8	814.1	826.6	842.8	849.1
32.5°	782.8	789.1	804.1	821.6	826.6
35°	751.5	760.3	777.8	797.8	804.1
37.5°	721.5	730.3	751.5	774.1	781.6
40°	690.3	700.3	722.8	749.0	759.1
42.5°	656.5	670.3	695.3	724.0	735.3
45°	622.7	635.3	666.5	699.0	711.5
47.5°	586.5	601.5	635.3	674.0	689.0
50°	547.7	566.5	605.2	647.8	664.0
52.5°	509.0	530.2	574.0	621.5	639.0
55°	471.4	491.4	544.0	595.2	614.0
57.5°	430.2	455.2	512.7	567.7	586.5
60°	387.7	415.2	481.4	539.0	559.0
62.5°	345.1	376.4	451.4	509.0	530.2
65°	302.6	337.6	416.4	477.7	498.9
67.5°	261.4	300.1	383.9	445.2	466.4
70°	213.8	262.6	348.9	408.9	430.2
72.5°	170.1	226.3	315.1	371.4	390.2
75°	131.3	191.3	277.6	328.9	336.4
77.5°	96.3	156.3	238.8	256.4	257.6
80°	65.0	125.0	182.6	180.1	182.6
82.5°	42.5	93.8	115.0	128.8	130.1
85°	25.0	55.0	67.5	75.0	76.3
87.5°	12.5	18.8	23.8	25.0	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)