

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: P309189

Luminaire Tested: **24FCZ2-30-UNV-L82765-HRP-CA08-W2A-U-4500K**

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: P309189  
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: 24FCZ2-30-UNV-L82765-HRP-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 4500K 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**

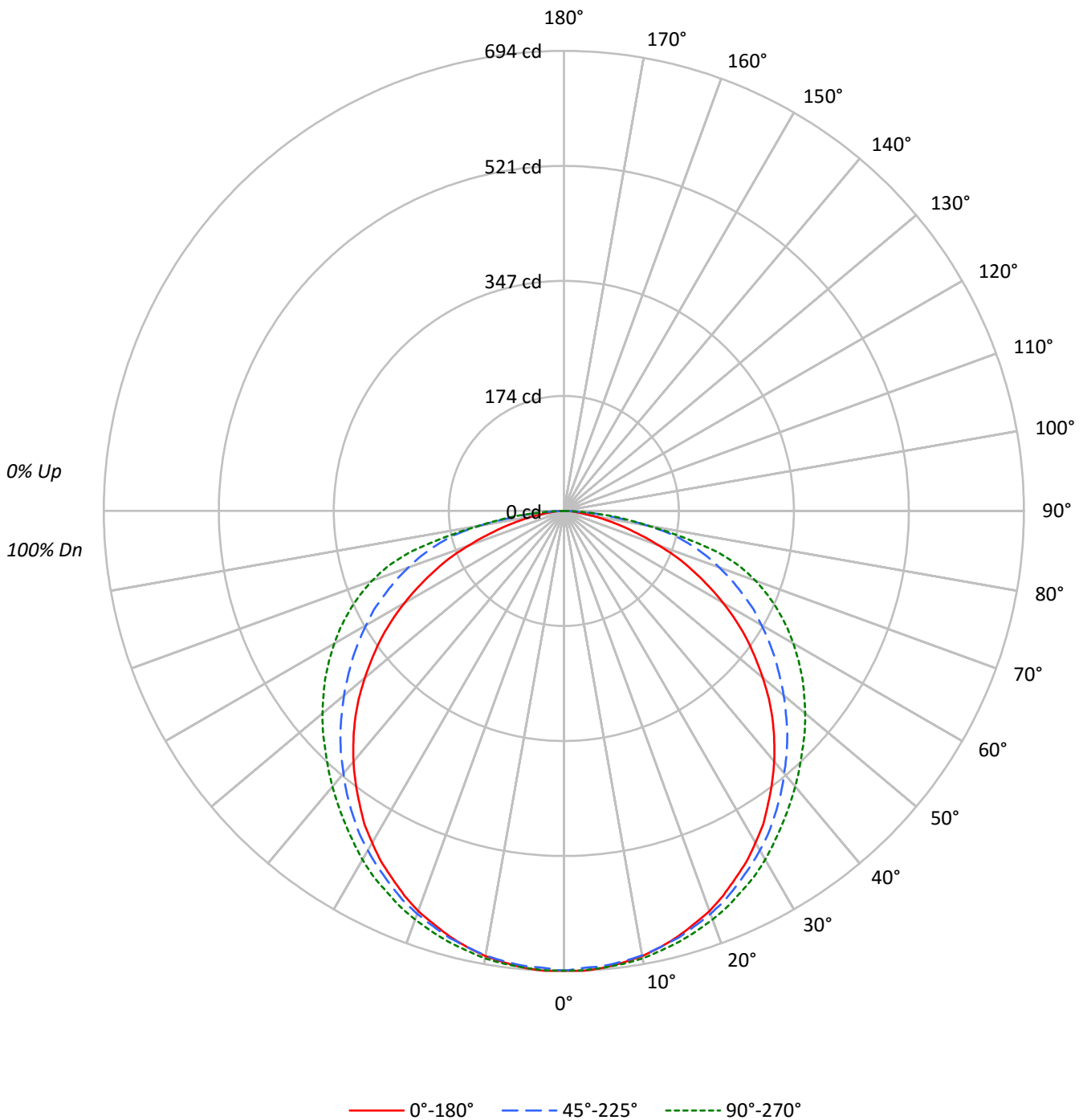
Lumens per Lamp: N/A  
Luminaire Lumens: 2137.0 lumens  
Efficiency: N/A  
Efficacy: 89.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	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°	933	933	933
5°	934	930	934
10°	931	930	936
15°	926	928	937
20°	920	926	939
25°	908	922	940
30°	898	919	944
35°	883	914	945
40°	867	908	954
45°	848	907	969
50°	820	906	994
55°	791	913	1031
60°	746	927	1076
65°	689	948	1137
70°	602	982	1211
75°	488	1032	1251
80°	360	1012	1012
85°	276	746	843



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.7	3.1
10°-20°	188.6	8.8
20°-30°	287.1	13.4
30°-40°	348.7	16.3
40°-50°	368.4	17.2
50°-60°	347.6	16.3
60°-70°	289.0	13.5
70°-80°	190.1	8.9
80°-90°	51.8	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°	541.4	25.3
0°-40°	890.1	41.7
0°-60°	1606.0	75.2
0°-90°	2137.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2137.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	693	693	693	693	693	
5°	692	692	689	692	692	66
15°	665	666	666	673	673	187
25°	612	616	621	632	633	282
35°	538	544	556	571	575	337
45°	446	454	477	500	509	343
55°	337	352	389	426	439	300
65°	216	242	298	342	357	214
75°	94	137	199	235	241	101
85°	18	39	48	54	55	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	693.4	693.4	693.4	693.4	693.4
2.5°	694.2	693.4	689.8	693.4	693.4
5°	691.6	691.6	688.9	691.6	691.6
7.5°	687.1	687.1	685.3	688.9	688.9
10°	681.7	681.7	680.8	685.3	685.3
12.5°	673.7	674.6	673.7	679.0	679.0
15°	664.7	665.6	666.5	672.8	672.8
17.5°	653.1	654.9	656.7	663.8	664.7
20°	642.4	643.3	646.8	654.9	655.8
22.5°	628.0	630.7	635.2	643.3	645.9
25°	611.9	615.5	620.9	631.6	633.4
27.5°	596.7	599.4	606.6	618.2	621.8
30°	577.9	582.4	591.4	603.0	607.5
32.5°	560.0	564.5	575.3	587.8	591.4
35°	537.7	543.9	556.5	570.8	575.3
37.5°	516.2	522.5	537.7	553.8	559.2
40°	493.8	501.0	517.1	535.9	543.1
42.5°	469.7	479.5	497.4	518.0	526.1
45°	445.5	454.5	476.8	500.1	509.1
47.5°	419.6	430.3	454.5	482.2	493.0
50°	391.9	405.3	433.0	463.4	475.1
52.5°	364.1	379.3	410.6	444.6	457.2
55°	337.3	351.6	389.2	425.9	439.3
57.5°	307.8	325.7	366.8	406.2	419.6
60°	277.3	297.0	344.4	385.6	399.9
62.5°	246.9	269.3	323.0	364.1	379.3
65°	216.5	241.6	297.9	341.8	357.0
67.5°	187.0	214.7	274.7	318.5	333.7
70°	153.0	187.9	249.6	292.5	307.8
72.5°	121.7	161.9	225.5	265.7	279.1
75°	93.9	136.9	198.6	235.3	240.7
77.5°	68.9	111.8	170.9	183.4	184.3
80°	46.5	89.5	130.6	128.8	130.6
82.5°	30.4	67.1	82.3	92.1	93.0
85°	17.9	39.4	48.3	53.7	54.6
87.5°	8.9	13.4	17.0	17.9	19.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)