

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: P309186

Luminaire Tested: **24FCZ2-30-UNV-L82765-HRP-CA08-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: P309186  
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-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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**

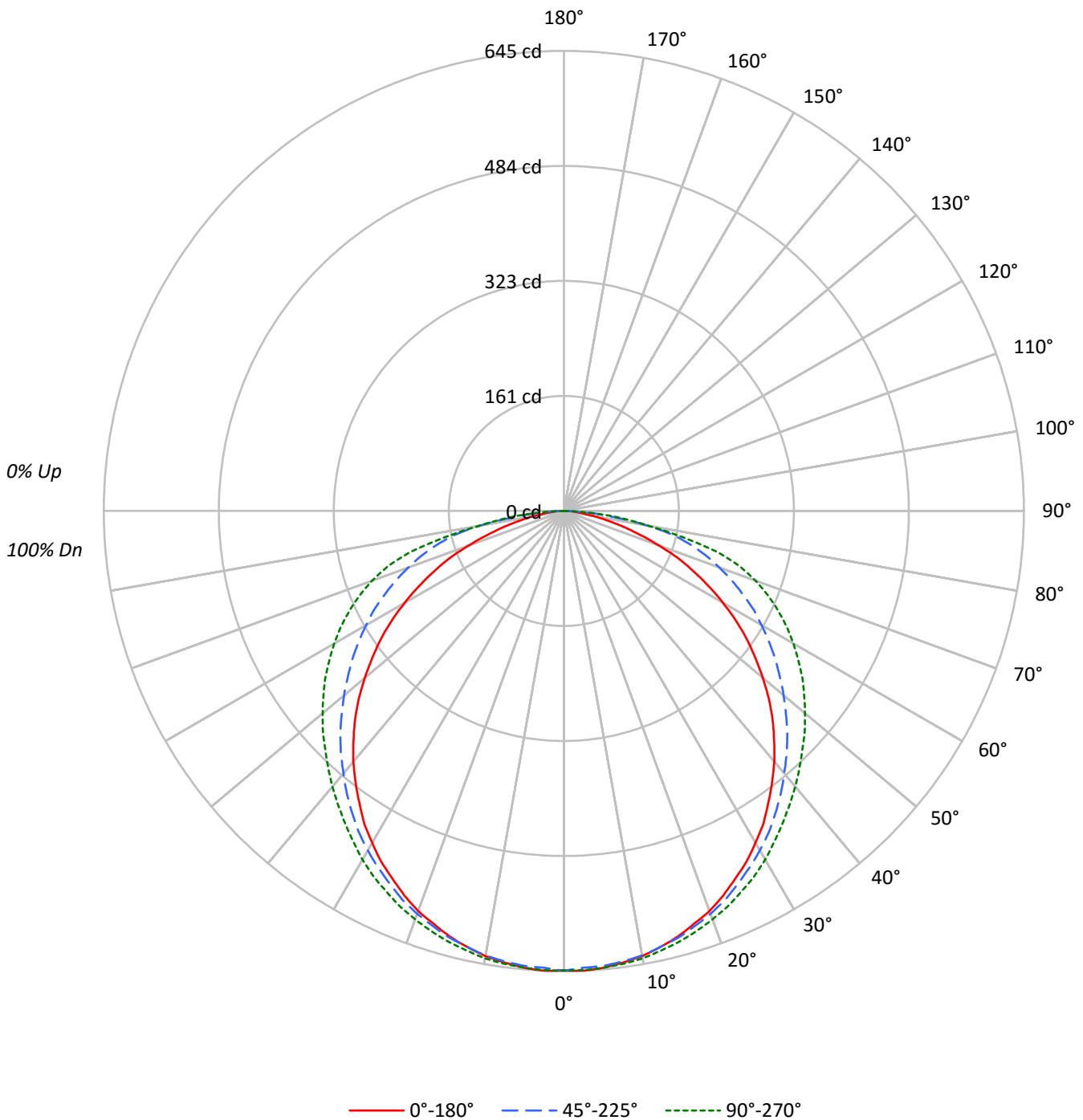
Lumens per Lamp: N/A  
Luminaire Lumens: 1986.0 lumens  
Efficiency: N/A  
Efficacy: 85.6 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	867	867	867
5°	868	865	868
10°	866	864	870
15°	861	863	871
20°	855	861	873
25°	844	857	874
30°	834	854	877
35°	821	850	878
40°	806	844	886
45°	788	843	900
50°	762	842	924
55°	735	848	958
60°	693	861	1000
65°	641	882	1056
70°	559	913	1125
75°	454	960	1163
80°	335	941	941
85°	256	693	783



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.0	3.1
10°-20°	175.3	8.8
20°-30°	266.9	13.4
30°-40°	324.0	16.3
40°-50°	342.3	17.2
50°-60°	323.0	16.3
60°-70°	268.6	13.5
70°-80°	176.7	8.9
80°-90°	48.2	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°	503.2	25.3
0°-40°	827.2	41.7
0°-60°	1492.6	75.2
0°-90°	1986.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1986.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	644	644	644	644	644	
5°	643	643	640	643	643	61
15°	618	619	619	625	625	174
25°	569	572	577	587	589	262
35°	500	506	517	530	535	313
45°	414	422	443	465	473	319
55°	313	327	362	396	408	279
65°	201	224	277	318	332	199
75°	87	127	185	219	224	94
85°	17	37	45	50	51	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	644.4	644.4	644.4	644.4	644.4
2.5°	645.2	644.4	641.0	644.4	644.4
5°	642.7	642.7	640.2	642.7	642.7
7.5°	638.5	638.5	636.9	640.2	640.2
10°	633.6	633.6	632.7	636.9	636.9
12.5°	626.1	626.9	626.1	631.1	631.1
15°	617.8	618.6	619.4	625.2	625.2
17.5°	606.9	608.6	610.3	616.9	617.8
20°	597.0	597.8	601.1	608.6	609.4
22.5°	583.7	586.2	590.3	597.8	600.3
25°	568.7	572.0	577.0	587.0	588.7
27.5°	554.6	557.1	563.7	574.5	577.8
30°	537.1	541.3	549.6	560.4	564.5
32.5°	520.5	524.6	534.6	546.3	549.6
35°	499.7	505.5	517.2	530.5	534.6
37.5°	479.7	485.6	499.7	514.7	519.6
40°	459.0	465.6	480.6	498.0	504.7
42.5°	436.5	445.6	462.3	481.4	488.9
45°	414.1	422.4	443.2	464.8	473.1
47.5°	389.9	399.9	422.4	448.1	458.1
50°	364.2	376.6	402.4	430.7	441.5
52.5°	338.4	352.5	381.6	413.2	424.9
55°	313.4	326.8	361.7	395.8	408.2
57.5°	286.0	302.6	340.9	377.5	389.9
60°	257.7	276.0	320.1	358.3	371.6
62.5°	229.5	250.3	300.1	338.4	352.5
65°	201.2	224.5	276.9	317.6	331.7
67.5°	173.8	199.5	255.2	296.0	310.1
70°	142.2	174.6	232.0	271.9	286.0
72.5°	113.1	150.5	209.5	246.9	259.4
75°	87.3	127.2	184.6	218.7	223.7
77.5°	64.0	103.9	158.8	170.4	171.3
80°	43.2	83.1	121.4	119.7	121.4
82.5°	28.3	62.4	76.5	85.6	86.5
85°	16.6	36.6	44.9	49.9	50.7
87.5°	8.3	12.5	15.8	16.6	18.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)