

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: P312492

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CA08-W2A-U-4000K**

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: P312492  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-29HE-UNV-L83050-HRP-CA08-W2A-U-4000K  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 4000K 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**

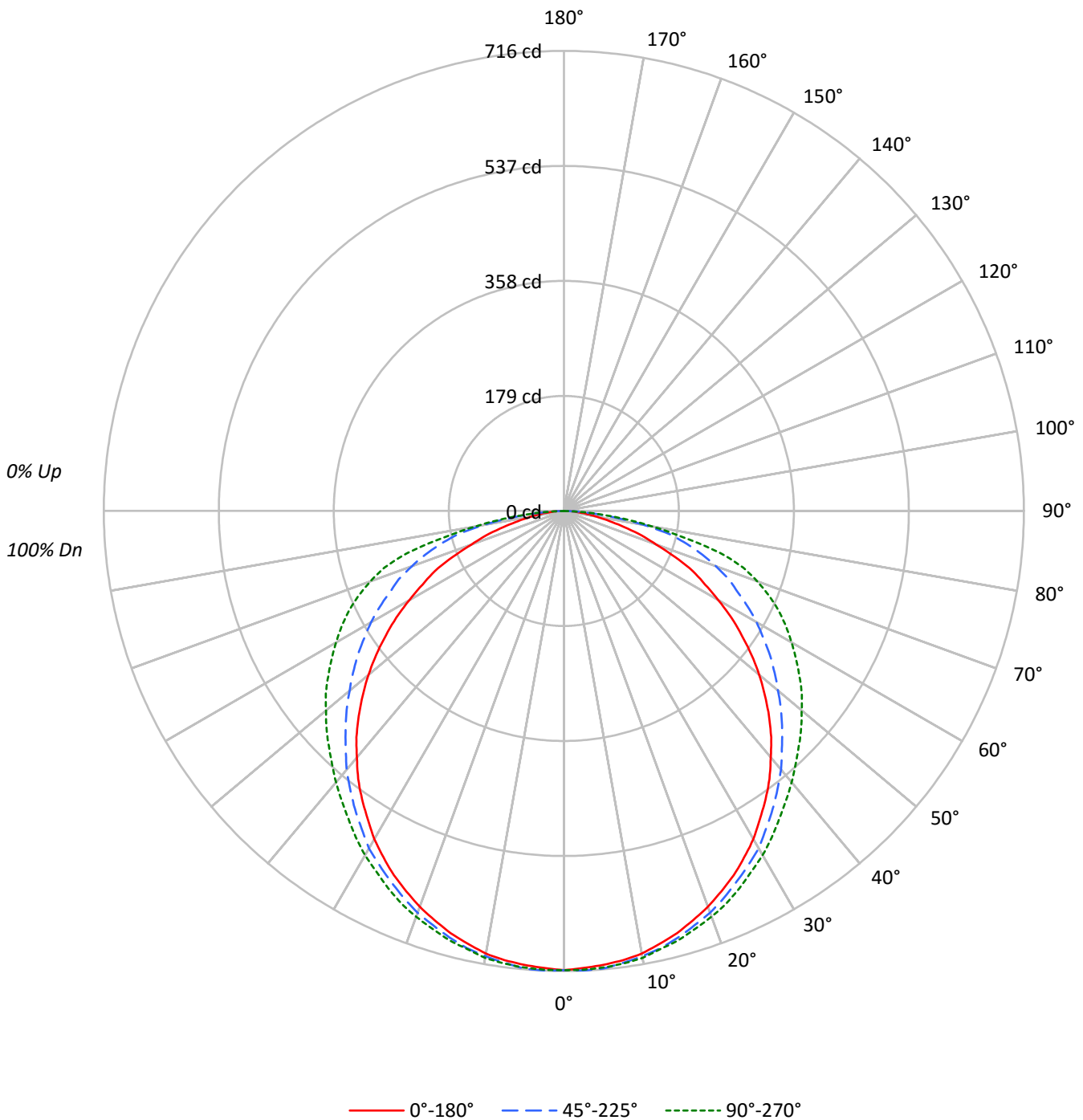
Lumens per Lamp: N/A  
Luminaire Lumens: 2170.0 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 22.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

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

	0°	45°	90°
0°	1923	1923	1923
5°	1915	1930	1927
10°	1911	1923	1930
15°	1895	1914	1926
20°	1878	1905	1925
25°	1858	1890	1923
30°	1833	1884	1922
35°	1799	1862	1920
40°	1760	1847	1938
45°	1719	1829	1969
50°	1662	1822	2023
55°	1586	1837	2100
60°	1496	1864	2203
65°	1412	1900	2353
70°	1206	1982	2520
75°	1011	2064	2619
80°	828	1994	2185
85°	719	1479	1606



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.7	3.1
10°-20°	193.7	8.9
20°-30°	293.6	13.5
30°-40°	354.5	16.3
40°-50°	372.5	17.2
50°-60°	350.5	16.2
60°-70°	292.2	13.5
70°-80°	193.6	8.9
80°-90°	51.6	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°	555.0	25.6
0°-40°	909.5	41.9
0°-60°	1632.5	75.2
0°-90°	2170.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2170.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	715	715	715	715	715	
5°	709	710	715	715	713	67
15°	680	683	687	690	691	192
25°	626	630	636	645	648	288
35°	548	553	567	579	584	342
45°	452	459	480	505	517	348
55°	338	353	392	431	448	302
65°	222	241	298	348	370	216
75°	97	136	198	240	252	106
85°	23	36	48	52	52	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	714.6	714.6	714.6	714.6	714.6
2.5°	711.8	713.2	715.9	715.9	714.6
5°	709.1	710.4	714.6	714.6	713.2
7.5°	705.0	706.3	709.1	711.8	710.4
10°	699.5	700.9	703.6	706.3	706.3
12.5°	689.9	691.3	696.8	698.1	698.1
15°	680.3	683.1	687.2	689.9	691.3
17.5°	668.0	670.8	676.2	681.7	681.7
20°	655.7	658.4	665.3	670.8	672.1
22.5°	640.6	644.7	651.6	658.4	661.2
25°	625.6	629.7	636.5	644.7	647.5
27.5°	607.8	611.9	621.5	631.1	632.4
30°	590.0	594.1	606.4	614.6	618.7
32.5°	568.1	573.6	585.9	598.2	602.3
35°	547.6	553.0	566.7	579.0	584.5
37.5°	525.7	531.1	546.2	561.2	568.1
40°	501.0	507.9	525.7	542.1	551.7
42.5°	477.7	484.6	502.4	524.3	533.9
45°	451.7	458.6	480.5	505.1	517.4
47.5°	424.4	432.6	458.6	488.7	501.0
50°	397.0	406.6	435.3	469.5	483.2
52.5°	368.2	380.5	413.4	450.4	466.8
55°	338.1	353.2	391.5	431.2	447.6
57.5°	309.4	323.1	368.2	410.7	428.5
60°	277.9	295.7	346.3	390.1	409.3
62.5°	247.8	266.9	323.1	369.6	390.1
65°	221.8	240.9	298.4	347.7	369.6
67.5°	187.5	213.5	277.9	324.4	346.3
70°	153.3	188.9	251.9	299.8	320.3
72.5°	127.3	161.5	225.9	273.8	292.9
75°	97.2	135.5	198.5	239.6	251.9
77.5°	72.6	112.2	169.7	190.3	191.6
80°	53.4	86.2	128.7	135.5	141.0
82.5°	37.0	60.2	83.5	91.7	94.5
85°	23.3	35.6	47.9	52.0	52.0
87.5°	12.3	13.7	16.4	16.4	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)