

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: P312807

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-CP187-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: P312807  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
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-CP187-W2A-U-4000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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**

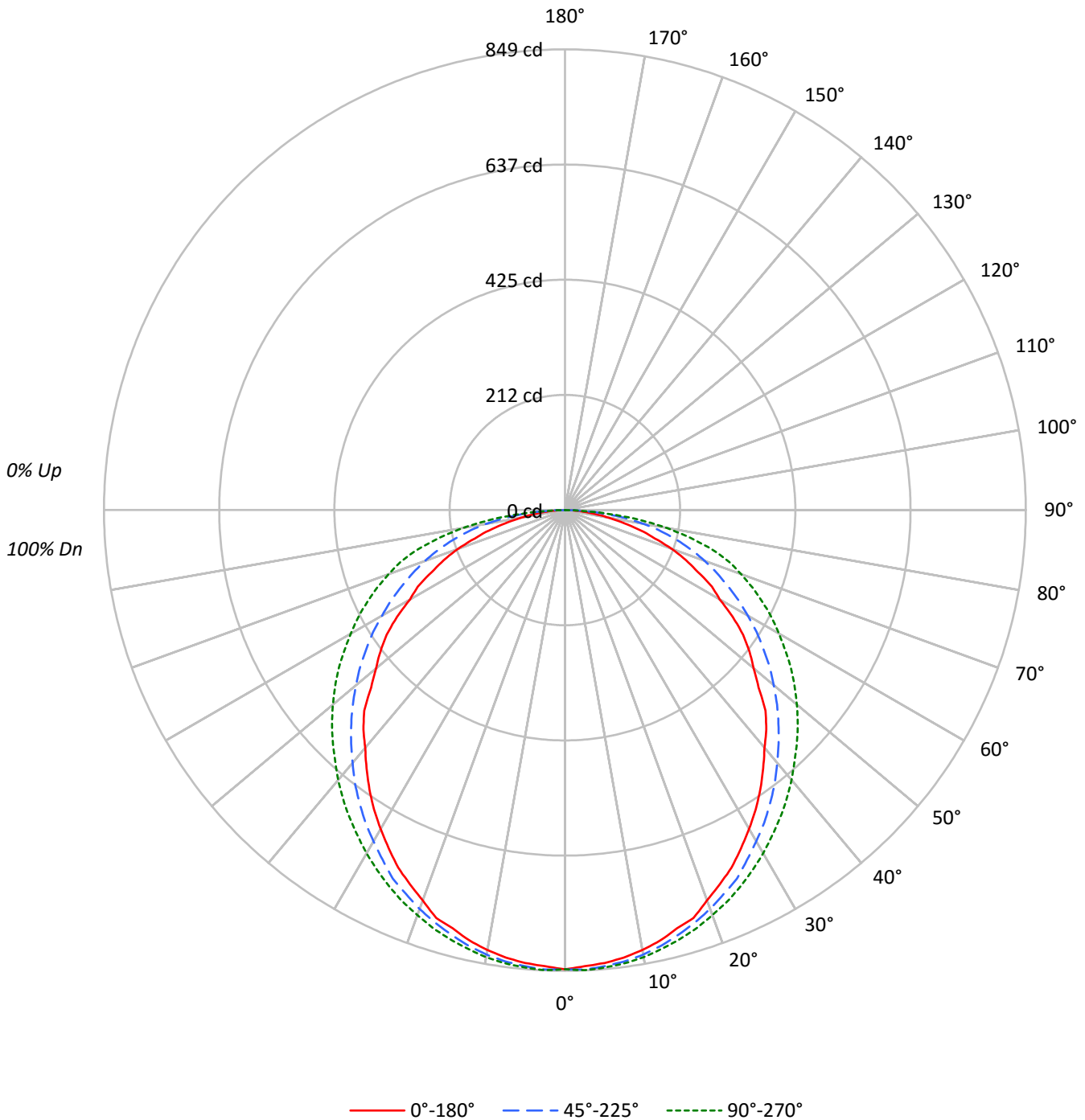
Lumens per Lamp: N/A  
Luminaire Lumens: 2522.0 lumens  
Efficiency: N/A  
Efficacy: 110.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 22.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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	100	96	92	96	93	90	92	89	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	60	68	63	59	56
4	81	69	60	53	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	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
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	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	2277	2277	2277
5°	2263	2279	2286
10°	2249	2273	2286
15°	2223	2256	2280
20°	2192	2240	2274
25°	2158	2226	2272
30°	2108	2190	2269
35°	2062	2165	2272
40°	2010	2137	2281
45°	1989	2118	2301
50°	1900	2102	2335
55°	1880	2095	2384
60°	1773	2092	2449
65°	1722	2106	2560
70°	1652	2156	2716
75°	1506	2222	2924
80°	1291	2301	2955
85°	1044	2198	2535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.1	3.2
10°-20°	228.4	9.1
20°-30°	343.8	13.6
30°-40°	412.6	16.4
40°-50°	431.2	17.1
50°-60°	401.9	15.9
60°-70°	329.6	13.1
70°-80°	222.1	8.8
80°-90°	72.3	2.9
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°	652.2	25.9
0°-40°	1064.8	42.2
0°-60°	1898.0	75.3
0°-90°	2522.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2522.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	846	846	846	846	846	
5°	838	840	844	845	846	80
15°	798	803	810	817	818	225
25°	727	732	750	760	765	334
35°	628	636	659	682	692	392
45°	523	526	556	590	605	399
55°	401	408	447	489	508	355
65°	270	282	331	379	402	269
75°	145	160	214	262	281	152
85°	34	48	71	83	82	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	846.2	846.2	846.2	846.2	846.2
2.5°	841.3	843.7	847.4	848.6	848.6
5°	837.7	840.1	843.7	844.9	846.2
7.5°	831.7	834.1	838.9	841.3	842.5
10°	823.2	825.6	831.7	835.3	836.5
12.5°	812.4	814.8	822.0	826.8	828.0
15°	797.9	802.7	809.9	817.2	818.4
17.5°	788.2	787.0	796.7	805.1	807.5
20°	765.3	771.3	782.2	791.8	794.2
22.5°	746.0	750.8	765.3	776.1	781.0
25°	726.7	731.5	749.6	760.5	765.3
27.5°	702.5	709.8	726.7	742.3	748.4
30°	678.4	685.6	704.9	723.0	730.3
32.5°	654.2	662.7	683.2	702.5	711.0
35°	627.7	636.1	659.1	682.0	691.6
37.5°	599.9	610.8	634.9	660.3	671.1
40°	572.1	583.0	608.4	637.3	649.4
42.5°	549.2	554.0	583.0	614.4	626.5
45°	522.7	526.3	556.5	590.3	604.7
47.5°	484.0	497.3	529.9	567.3	581.8
50°	453.9	468.3	502.1	542.0	557.7
52.5°	428.5	438.2	475.6	515.4	533.5
55°	400.7	408.0	446.6	488.9	508.2
57.5°	366.9	380.2	418.9	462.3	481.6
60°	329.5	346.4	388.7	435.8	455.1
62.5°	305.4	315.0	360.9	408.0	429.7
65°	270.4	282.5	330.7	379.0	402.0
67.5°	241.4	253.5	303.0	351.3	374.2
70°	210.0	222.1	274.0	322.3	345.2
72.5°	173.8	190.7	245.0	293.3	317.5
75°	144.8	160.5	213.7	261.9	281.2
77.5°	112.3	132.8	182.3	222.1	236.6
80°	83.3	103.8	148.5	177.4	190.7
82.5°	56.7	77.3	111.0	132.8	140.0
85°	33.8	48.3	71.2	83.3	82.1
87.5°	15.7	20.5	29.0	29.0	27.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)