

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: P311778

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP187-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: P311778
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L82765-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 5984.0 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

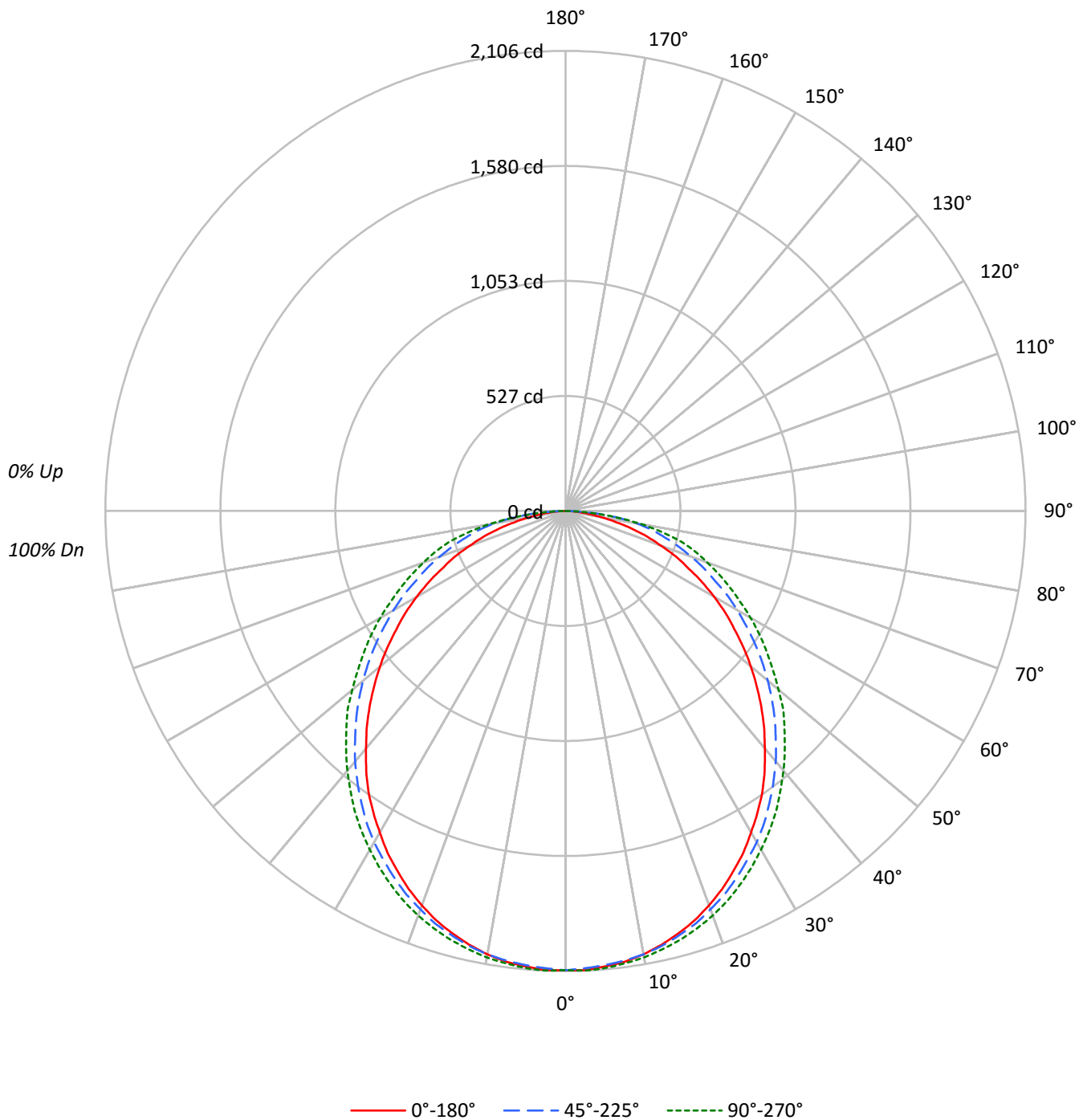
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2828	2828	2828
5°	2826	2819	2837
10°	2815	2815	2836
15°	2788	2801	2830
20°	2751	2779	2822
25°	2700	2751	2805
30°	2640	2720	2782
35°	2582	2676	2760
40°	2494	2631	2728
45°	2412	2579	2698
50°	2319	2530	2666
55°	2216	2483	2639
60°	2112	2445	2634
65°	1979	2402	2650
70°	1832	2415	2722
75°	1640	2460	2875
80°	1326	2607	2813
85°	997	2289	2231



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.0	3.3
10°-20°	568.7	9.5
20°-30°	854.8	14.3
30°-40°	1018.2	17.0
40°-50°	1042.1	17.4
50°-60°	938.2	15.7
60°-70°	736.8	12.3
70°-80°	478.2	8.0
80°-90°	147.9	2.5
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°	1622.5	27.1
0°-40°	2640.8	44.1
0°-60°	4621.1	77.2
0°-90°	5984.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5984.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2102	2102	2102	2102	2102	
5°	2093	2096	2087	2098	2100	199
15°	2002	2007	2011	2028	2032	564
25°	1819	1834	1853	1884	1889	838
35°	1572	1591	1629	1669	1680	981
45°	1268	1298	1355	1406	1418	977
55°	945	986	1059	1114	1125	847
65°	622	669	755	817	832	619
75°	316	376	473	538	553	334
85°	65	120	148	144	144	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2102.2	2102.2	2102.2	2102.2	2102.2
2.5°	2104.1	2104.1	2094.6	2104.1	2106.0
5°	2092.7	2096.5	2087.0	2098.4	2100.3
7.5°	2081.3	2081.3	2075.6	2087.0	2088.9
10°	2060.4	2062.3	2060.4	2073.7	2075.6
12.5°	2033.8	2037.6	2039.5	2052.8	2054.7
15°	2001.5	2007.2	2011.0	2028.1	2031.9
17.5°	1965.4	1971.1	1980.6	1999.6	2003.4
20°	1921.6	1929.3	1940.7	1965.4	1971.1
22.5°	1874.1	1881.7	1900.7	1923.5	1933.1
25°	1819.0	1834.2	1853.2	1883.6	1889.3
27.5°	1763.9	1777.2	1801.9	1834.2	1841.8
30°	1699.3	1720.2	1750.6	1782.9	1790.5
32.5°	1636.5	1657.4	1693.6	1727.8	1737.3
35°	1571.9	1590.9	1628.9	1668.8	1680.3
37.5°	1497.8	1522.5	1564.3	1604.2	1615.6
40°	1419.9	1450.3	1497.8	1539.6	1552.9
42.5°	1345.7	1378.0	1425.6	1471.2	1486.4
45°	1267.8	1298.2	1355.2	1406.5	1418.0
47.5°	1188.0	1222.2	1283.0	1334.3	1353.3
50°	1108.1	1144.2	1208.9	1262.1	1273.5
52.5°	1028.3	1066.3	1134.7	1191.8	1197.5
55°	944.7	986.5	1058.7	1113.8	1125.2
57.5°	868.6	904.8	982.7	1039.7	1053.0
60°	785.0	824.9	908.6	961.8	978.9
62.5°	705.2	747.0	834.4	887.6	902.9
65°	621.5	669.1	754.6	817.3	832.5
67.5°	549.3	594.9	686.2	747.0	762.2
70°	465.7	517.0	613.9	676.7	691.9
72.5°	393.5	446.7	543.6	604.4	627.2
75°	315.5	376.3	473.3	537.9	553.1
77.5°	239.5	309.8	408.7	458.1	458.1
80°	171.1	245.2	336.4	359.2	363.0
82.5°	112.1	184.4	249.0	247.1	247.1
85°	64.6	119.7	148.3	144.5	144.5
87.5°	24.7	49.4	53.2	53.2	51.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)