

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: P314505

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-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: P314505
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-L83050-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

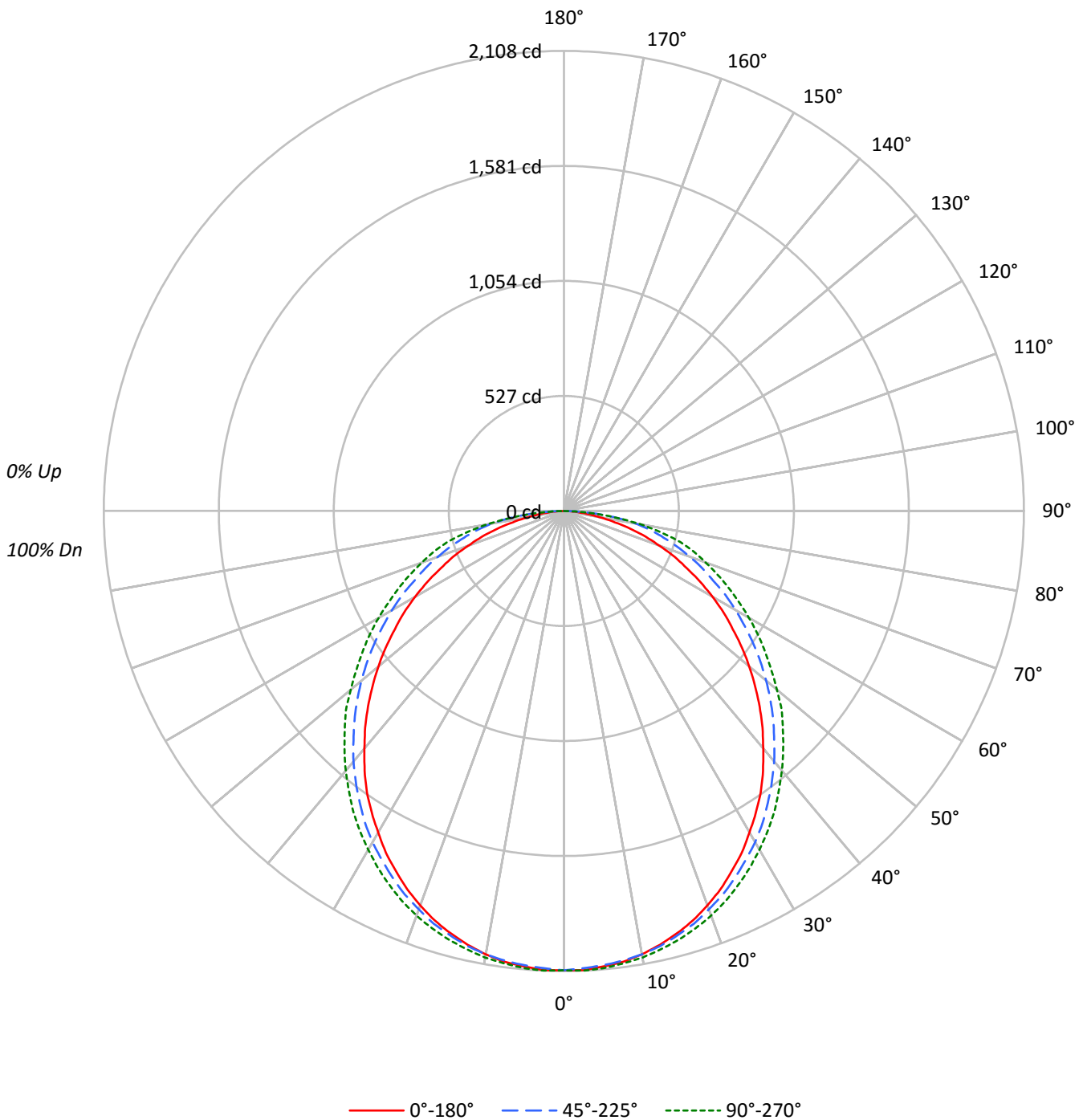
Lumens per Lamp: N/A
Luminaire Lumens: 5990.0 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 57.6
Input Voltage (V): NR
Input Current (A_{in}): 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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2831	2831	2831
5°	2829	2822	2840
10°	2818	2818	2839
15°	2791	2804	2833
20°	2754	2781	2825
25°	2703	2754	2808
30°	2643	2722	2785
35°	2585	2678	2763
40°	2496	2633	2730
45°	2415	2581	2701
50°	2322	2533	2668
55°	2218	2486	2642
60°	2115	2447	2637
65°	1981	2405	2653
70°	1834	2418	2725
75°	1642	2463	2878
80°	1327	2610	2816
85°	999	2291	2232



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.2	3.3
10°-20°	569.2	9.5
20°-30°	855.7	14.3
30°-40°	1019.3	17.0
40°-50°	1043.2	17.4
50°-60°	939.2	15.7
60°-70°	737.5	12.3
70°-80°	478.7	8.0
80°-90°	148.0	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°	1624.1	27.1
0°-40°	2643.4	44.1
0°-60°	4625.8	77.2
0°-90°	5990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2104	2104	2104	2104	2104	
5°	2095	2099	2089	2100	2102	199
15°	2004	2009	2013	2030	2034	565
25°	1821	1836	1855	1886	1891	839
35°	1574	1592	1631	1670	1682	982
45°	1269	1300	1357	1408	1419	978
55°	946	988	1060	1115	1126	848
65°	622	670	755	818	833	619
75°	316	377	474	538	554	334
85°	65	120	148	145	145	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2104.3	2104.3	2104.3	2104.3	2104.3
2.5°	2106.2	2106.2	2096.7	2106.2	2108.1
5°	2094.8	2098.6	2089.1	2100.5	2102.4
7.5°	2083.4	2083.4	2077.7	2089.1	2091.0
10°	2062.5	2064.4	2062.5	2075.8	2077.7
12.5°	2035.8	2039.6	2041.5	2054.9	2056.8
15°	2003.5	2009.2	2013.0	2030.1	2033.9
17.5°	1967.3	1973.0	1982.6	2001.6	2005.4
20°	1923.6	1931.2	1942.6	1967.3	1973.0
22.5°	1876.0	1883.6	1902.6	1925.5	1935.0
25°	1820.8	1836.1	1855.1	1885.5	1891.2
27.5°	1765.7	1779.0	1803.7	1836.1	1843.7
30°	1701.0	1721.9	1752.3	1784.7	1792.3
32.5°	1638.2	1659.1	1695.3	1729.5	1739.0
35°	1573.5	1592.5	1630.6	1670.5	1681.9
37.5°	1499.3	1524.0	1565.9	1605.8	1617.2
40°	1421.3	1451.7	1499.3	1541.1	1554.5
42.5°	1347.1	1379.4	1427.0	1472.6	1487.9
45°	1269.1	1299.5	1356.6	1408.0	1419.4
47.5°	1189.2	1223.4	1284.3	1335.7	1354.7
50°	1109.2	1145.4	1210.1	1263.4	1274.8
52.5°	1029.3	1067.4	1135.9	1193.0	1198.7
55°	945.6	987.5	1059.8	1115.0	1126.4
57.5°	869.5	905.7	983.7	1040.7	1054.1
60°	785.8	825.7	909.5	962.7	979.9
62.5°	705.9	747.7	835.3	888.5	903.8
65°	622.2	669.7	755.4	818.1	833.4
67.5°	549.9	595.5	686.9	747.7	763.0
70°	466.1	517.5	614.6	677.3	692.6
72.5°	393.8	447.1	544.2	605.0	627.9
75°	315.8	376.7	473.8	538.4	553.7
77.5°	239.7	310.1	409.1	458.5	458.5
80°	171.2	245.4	336.8	359.6	363.4
82.5°	112.3	184.6	249.2	247.3	247.3
85°	64.7	119.9	148.4	144.6	144.6
87.5°	24.7	49.5	53.3	53.3	51.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)