

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: P311782

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP187-W2A-U-5000K**

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: P311782
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 6526.0 lumens
Efficiency: N/A
Efficacy: 110.4 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

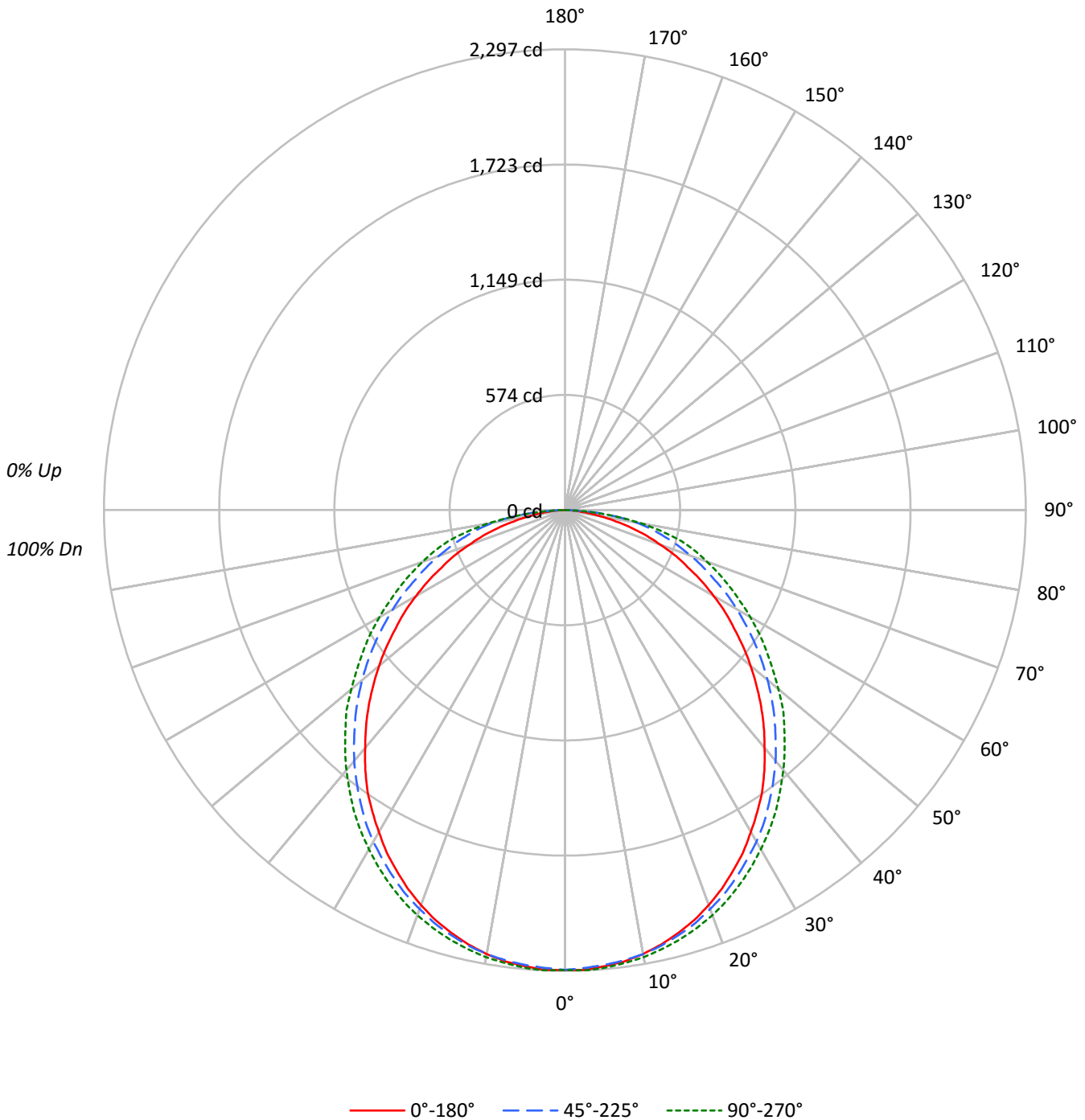
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3085	3085	3085
5°	3083	3074	3094
10°	3070	3070	3093
15°	3041	3055	3087
20°	3001	3030	3078
25°	2945	3000	3059
30°	2879	2966	3034
35°	2816	2918	3010
40°	2720	2869	2975
45°	2631	2812	2943
50°	2530	2760	2907
55°	2417	2708	2879
60°	2304	2666	2873
65°	2158	2620	2890
70°	1998	2634	2968
75°	1789	2684	3136
80°	1446	2843	3068
85°	1088	2496	2431



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.0	3.3
10°-20°	620.2	9.5
20°-30°	932.3	14.3
30°-40°	1110.5	17.0
40°-50°	1136.5	17.4
50°-60°	1023.2	15.7
60°-70°	803.5	12.3
70°-80°	521.5	8.0
80°-90°	161.3	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°	1769.5	27.1
0°-40°	2879.9	44.1
0°-60°	5039.7	77.2
0°-90°	6526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6526.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2293	2293	2293	2293	2293	
5°	2282	2286	2276	2288	2291	217
15°	2183	2189	2193	2212	2216	615
25°	1984	2000	2021	2054	2060	914
35°	1714	1735	1776	1820	1832	1069
45°	1383	1416	1478	1534	1546	1066
55°	1030	1076	1155	1215	1227	924
65°	678	730	823	891	908	675
75°	344	410	516	587	603	364
85°	70	131	162	158	158	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2292.6	2292.6	2292.6	2292.6	2292.6
2.5°	2294.7	2294.7	2284.3	2294.7	2296.8
5°	2282.3	2286.4	2276.0	2288.5	2290.6
7.5°	2269.8	2269.8	2263.6	2276.0	2278.1
10°	2247.0	2249.1	2247.0	2261.5	2263.6
12.5°	2218.0	2222.1	2224.2	2238.7	2240.8
15°	2182.8	2189.0	2193.1	2211.8	2215.9
17.5°	2143.4	2149.6	2160.0	2180.7	2184.8
20°	2095.7	2104.0	2116.4	2143.4	2149.6
22.5°	2043.9	2052.2	2072.9	2097.8	2108.1
25°	1983.8	2000.3	2021.1	2054.2	2060.5
27.5°	1923.7	1938.2	1965.1	2000.3	2008.6
30°	1853.2	1876.0	1909.1	1944.4	1952.7
32.5°	1784.8	1807.6	1847.0	1884.3	1894.6
35°	1714.3	1735.0	1776.5	1820.0	1832.4
37.5°	1633.4	1660.4	1706.0	1749.5	1762.0
40°	1548.5	1581.6	1633.4	1679.0	1693.6
42.5°	1467.6	1502.9	1554.7	1604.4	1621.0
45°	1382.6	1415.8	1478.0	1533.9	1546.4
47.5°	1295.6	1332.9	1399.2	1455.2	1475.9
50°	1208.5	1247.9	1318.4	1376.4	1388.8
52.5°	1121.4	1162.9	1237.5	1299.7	1305.9
55°	1030.2	1075.8	1154.6	1214.7	1227.2
57.5°	947.3	986.7	1071.7	1133.9	1148.4
60°	856.1	899.6	990.8	1048.9	1067.5
62.5°	769.0	814.6	910.0	968.0	984.6
65°	677.8	729.7	822.9	891.3	907.9
67.5°	599.1	648.8	748.3	814.6	831.2
70°	507.9	563.8	669.5	738.0	754.5
72.5°	429.1	487.1	592.8	659.2	684.1
75°	344.1	410.4	516.2	586.6	603.2
77.5°	261.2	337.9	445.7	499.6	499.6
80°	186.6	267.4	366.9	391.8	395.9
82.5°	122.3	201.1	271.5	269.5	269.5
85°	70.5	130.6	161.7	157.5	157.5
87.5°	26.9	53.9	58.0	58.0	56.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)