

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: P314132

Luminaire Tested: **24FCZ2-70HE-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: P314132
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 6334.0 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

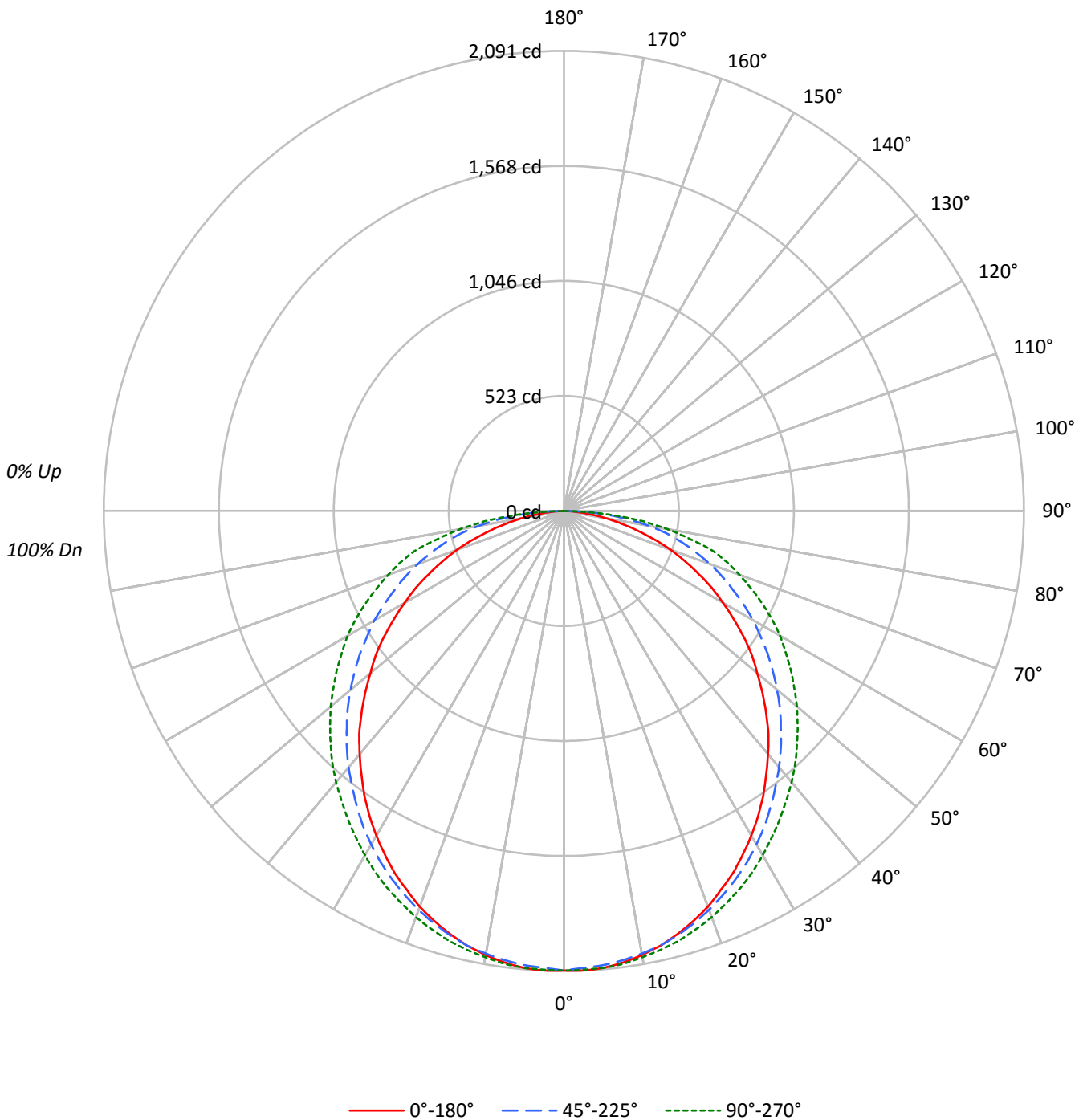
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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°	2811	2811	2811
5°	2816	2799	2816
10°	2799	2791	2814
15°	2775	2781	2816
20°	2741	2762	2813
25°	2699	2742	2811
30°	2648	2720	2808
35°	2596	2692	2810
40°	2536	2672	2827
45°	2475	2655	2851
50°	2402	2648	2894
55°	2342	2652	2953
60°	2251	2675	3054
65°	2148	2703	3165
70°	2034	2786	3340
75°	1814	2906	3649
80°	1547	3078	3729
85°	1104	3049	3569



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.7	3.1
10°-20°	565.3	8.9
20°-30°	853.8	13.5
30°-40°	1029.0	16.2
40°-50°	1080.3	17.1
50°-60°	1010.7	16.0
60°-70°	834.6	13.2
70°-80°	568.7	9.0
80°-90°	194.0	3.1
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°	1616.7	25.5
0°-40°	2645.8	41.8
0°-60°	4736.7	74.8
0°-90°	6334.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6334.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2089	2089	2089	2089	2089	
5°	2085	2083	2072	2085	2085	198
15°	1992	1994	1996	2017	2022	562
25°	1818	1826	1847	1883	1894	836
35°	1580	1597	1639	1694	1711	988
45°	1301	1328	1395	1471	1498	1003
55°	998	1038	1131	1223	1259	891
65°	675	731	849	956	994	669
75°	349	429	559	664	702	372
85°	72	141	198	223	231	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2088.9	2088.9	2088.9	2088.9	2088.9
2.5°	2091.0	2088.9	2078.4	2088.9	2086.8
5°	2084.7	2082.6	2072.1	2084.7	2084.7
7.5°	2070.0	2070.0	2059.5	2074.2	2076.3
10°	2049.0	2049.0	2042.7	2059.5	2059.5
12.5°	2023.8	2023.8	2023.8	2040.6	2042.7
15°	1992.2	1994.3	1996.4	2017.4	2021.6
17.5°	1954.4	1958.6	1964.9	1990.1	1994.3
20°	1914.5	1918.7	1929.2	1958.6	1964.9
22.5°	1864.0	1874.5	1889.3	1922.9	1929.2
25°	1817.8	1826.2	1847.2	1883.0	1893.5
27.5°	1761.1	1773.7	1801.0	1838.8	1853.5
30°	1704.3	1716.9	1750.6	1794.7	1807.3
32.5°	1643.4	1662.3	1698.0	1744.3	1759.0
35°	1580.3	1597.1	1639.2	1693.8	1710.6
37.5°	1511.0	1534.1	1580.3	1639.2	1660.2
40°	1443.7	1469.0	1521.5	1584.5	1609.8
42.5°	1376.5	1401.7	1460.5	1532.0	1557.2
45°	1300.8	1328.2	1395.4	1471.1	1498.4
47.5°	1225.2	1258.8	1332.4	1412.2	1441.6
50°	1147.4	1185.3	1265.1	1349.2	1382.8
52.5°	1078.1	1113.8	1197.9	1288.2	1319.7
55°	998.2	1038.1	1130.6	1223.1	1258.8
57.5°	916.3	960.4	1059.2	1160.0	1195.8
60°	836.4	884.7	994.0	1094.9	1134.8
62.5°	758.6	807.0	920.5	1025.5	1065.5
65°	674.6	731.3	849.0	956.2	994.0
67.5°	594.7	655.7	779.7	884.7	922.6
70°	517.0	575.8	708.2	811.2	849.0
72.5°	432.9	500.2	632.6	739.7	779.7
75°	348.9	428.7	559.0	664.1	701.9
77.5°	271.1	353.1	483.3	569.5	588.4
80°	199.6	283.7	397.2	458.1	481.2
82.5°	128.2	212.3	302.6	346.7	365.7
85°	71.5	140.8	197.5	222.8	231.2
87.5°	29.4	60.9	79.9	90.4	90.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)