

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: P311110

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP187-W2A-U-6500K**

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: P311110
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-L82765-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 6500K 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: 6305.0 lumens
Efficiency: N/A
Efficacy: 104.6 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

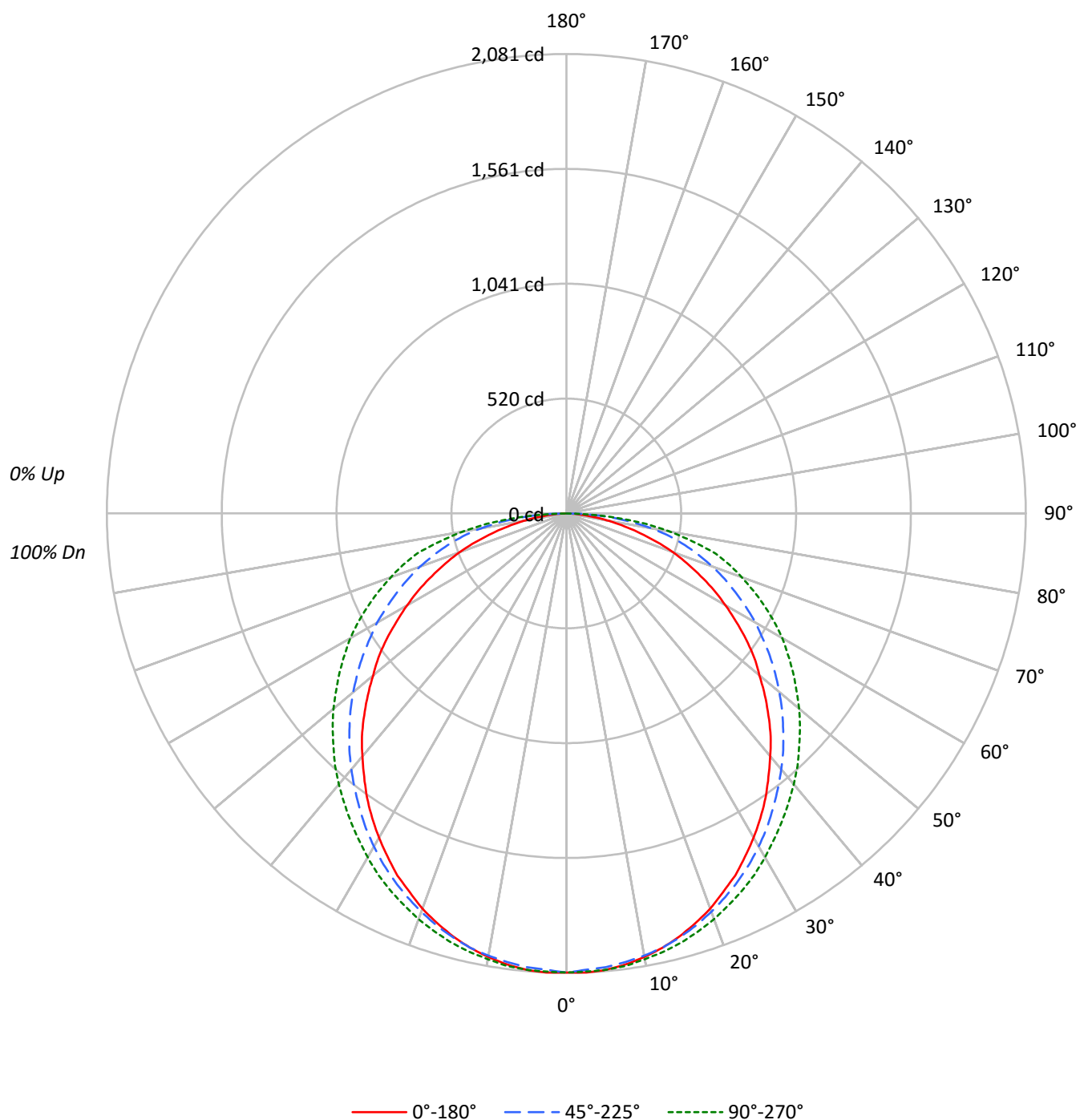
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2798	2798	2798
5°	2803	2786	2803
10°	2787	2778	2801
15°	2762	2768	2803
20°	2729	2750	2801
25°	2686	2730	2798
30°	2636	2707	2795
35°	2584	2680	2797
40°	2524	2660	2814
45°	2464	2643	2838
50°	2391	2636	2881
55°	2331	2640	2939
60°	2241	2663	3040
65°	2138	2691	3150
70°	2024	2773	3325
75°	1805	2892	3632
80°	1540	3064	3711
85°	1098	3035	3552



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.8	3.1
10°-20°	562.7	8.9
20°-30°	849.9	13.5
30°-40°	1024.3	16.2
40°-50°	1075.3	17.1
50°-60°	1006.0	16.0
60°-70°	830.8	13.2
70°-80°	566.1	9.0
80°-90°	193.1	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°	1609.3	25.5
0°-40°	2633.6	41.8
0°-60°	4715.0	74.8
0°-90°	6305.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6305.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2079	2079	2079	2079	2079	
5°	2075	2073	2063	2075	2075	197
15°	1983	1985	1987	2008	2012	559
25°	1810	1818	1839	1874	1885	833
35°	1573	1590	1632	1686	1703	983
45°	1295	1322	1389	1464	1492	999
55°	994	1033	1125	1218	1253	887
65°	672	728	845	952	990	666
75°	347	427	556	661	699	370
85°	71	140	197	222	230	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2079.3	2079.3	2079.3	2079.3	2079.3
2.5°	2081.4	2079.3	2068.9	2079.3	2077.2
5°	2075.2	2073.1	2062.6	2075.2	2075.2
7.5°	2060.5	2060.5	2050.0	2064.7	2066.8
10°	2039.6	2039.6	2033.3	2050.0	2050.0
12.5°	2014.5	2014.5	2014.5	2031.2	2033.3
15°	1983.1	1985.2	1987.3	2008.2	2012.4
17.5°	1945.5	1949.6	1955.9	1981.0	1985.2
20°	1905.7	1909.9	1920.4	1949.6	1955.9
22.5°	1855.5	1866.0	1880.6	1914.1	1920.4
25°	1809.5	1817.8	1838.8	1874.3	1884.8
27.5°	1753.0	1765.6	1792.7	1830.4	1845.0
30°	1696.5	1709.1	1742.5	1786.5	1799.0
32.5°	1635.9	1654.7	1690.2	1736.3	1750.9
35°	1573.1	1589.8	1631.7	1686.1	1702.8
37.5°	1504.1	1527.1	1573.1	1631.7	1652.6
40°	1437.1	1462.2	1514.5	1577.3	1602.4
42.5°	1370.2	1395.3	1453.9	1525.0	1550.1
45°	1294.9	1322.1	1389.0	1464.3	1491.5
47.5°	1219.6	1253.0	1326.3	1405.7	1435.0
50°	1142.2	1179.8	1259.3	1343.0	1376.5
52.5°	1073.1	1108.7	1192.4	1282.3	1313.7
55°	993.6	1033.4	1125.4	1217.5	1253.0
57.5°	912.1	956.0	1054.3	1154.7	1190.3
60°	832.6	880.7	989.5	1089.9	1129.6
62.5°	755.2	803.3	916.2	1020.8	1060.6
65°	671.5	728.0	845.1	951.8	989.5
67.5°	592.0	652.7	776.1	880.7	918.3
70°	514.6	573.2	705.0	807.5	845.1
72.5°	430.9	497.9	629.7	736.3	776.1
75°	347.3	426.7	556.4	661.0	698.7
77.5°	269.9	351.4	481.1	566.9	585.7
80°	198.7	282.4	395.4	456.0	479.0
82.5°	127.6	211.3	301.2	345.2	364.0
85°	71.1	140.2	196.6	221.7	230.1
87.5°	29.3	60.7	79.5	90.0	90.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)