

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: P311107

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P311107
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-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 6211.0 lumens
Efficiency: N/A
Efficacy: 105.1 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

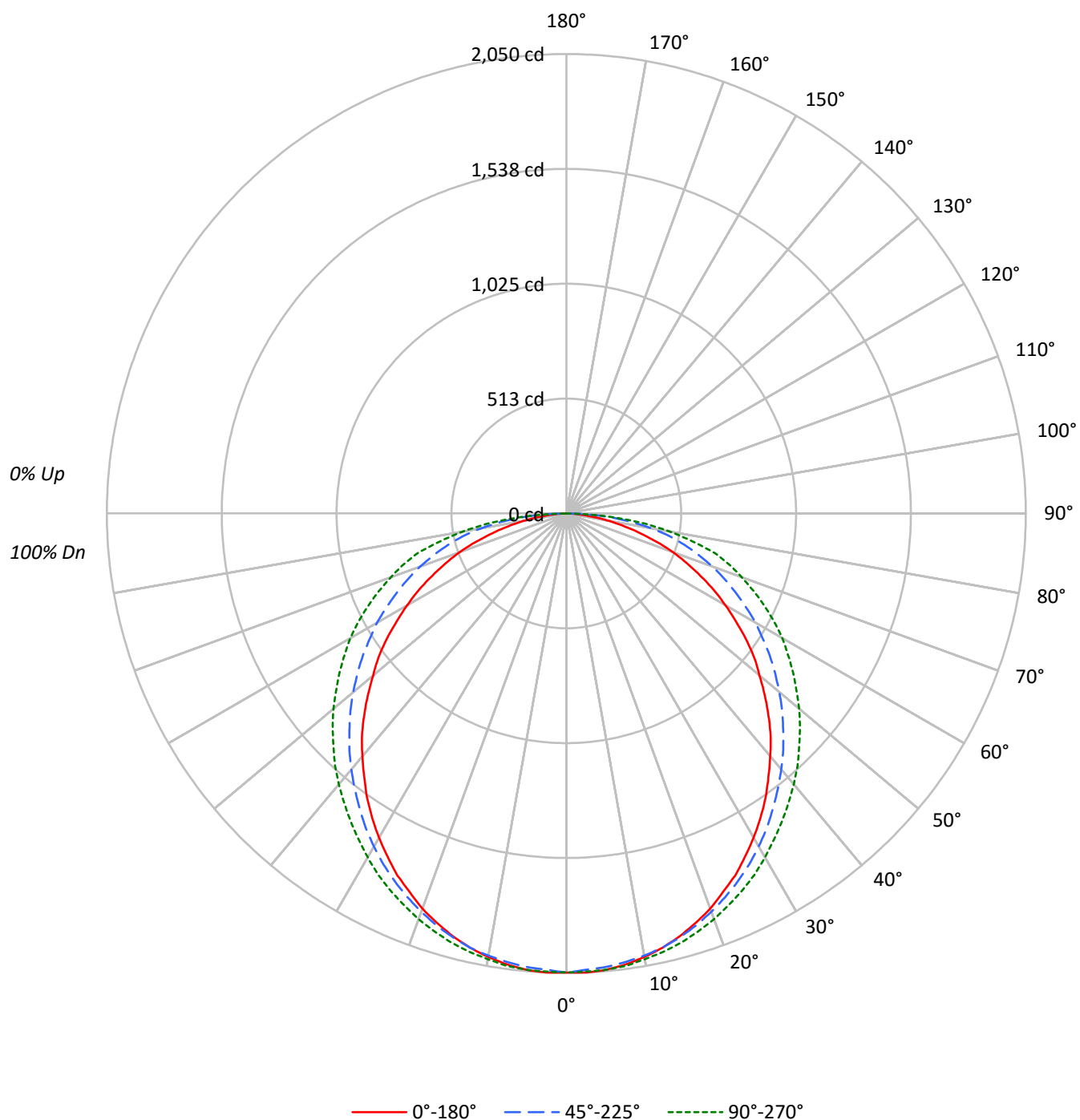
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2756	2756	2756
5°	2761	2744	2761
10°	2745	2737	2759
15°	2721	2727	2761
20°	2688	2709	2759
25°	2646	2689	2756
30°	2596	2667	2753
35°	2545	2640	2755
40°	2487	2620	2772
45°	2427	2604	2796
50°	2355	2597	2838
55°	2296	2601	2896
60°	2207	2623	2995
65°	2106	2650	3103
70°	1994	2732	3275
75°	1778	2849	3578
80°	1517	3018	3656
85°	1082	2990	3500



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.9	3.1
10°-20°	554.3	8.9
20°-30°	837.2	13.5
30°-40°	1009.0	16.2
40°-50°	1059.3	17.1
50°-60°	991.0	16.0
60°-70°	818.4	13.2
70°-80°	557.7	9.0
80°-90°	190.2	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°	1585.4	25.5
0°-40°	2594.4	41.8
0°-60°	4644.7	74.8
0°-90°	6211.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2048	2048	2048	2048	2048	
5°	2044	2042	2032	2044	2044	194
15°	1954	1956	1958	1978	1982	551
25°	1782	1791	1811	1846	1857	820
35°	1550	1566	1607	1661	1677	968
45°	1276	1302	1368	1442	1469	984
55°	979	1018	1109	1199	1234	874
65°	662	717	832	938	975	656
75°	342	420	548	651	688	365
85°	70	138	194	218	227	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2048.3	2048.3	2048.3	2048.3	2048.3
2.5°	2050.4	2048.3	2038.0	2048.3	2046.3
5°	2044.2	2042.2	2031.8	2044.2	2044.2
7.5°	2029.8	2029.8	2019.5	2033.9	2036.0
10°	2009.2	2009.2	2003.0	2019.5	2019.5
12.5°	1984.5	1984.5	1984.5	2000.9	2003.0
15°	1953.5	1955.6	1957.7	1978.3	1982.4
17.5°	1916.4	1920.6	1926.8	1951.5	1955.6
20°	1877.3	1881.4	1891.7	1920.6	1926.8
22.5°	1827.8	1838.1	1852.6	1885.5	1891.7
25°	1782.5	1790.7	1811.4	1846.4	1856.7
27.5°	1726.9	1739.2	1766.0	1803.1	1817.5
30°	1671.2	1683.6	1716.6	1759.8	1772.2
32.5°	1611.5	1630.0	1665.0	1710.4	1724.8
35°	1549.6	1566.1	1607.3	1660.9	1677.4
37.5°	1481.6	1504.3	1549.6	1607.3	1628.0
40°	1415.7	1440.4	1491.9	1553.8	1578.5
42.5°	1349.8	1374.5	1432.2	1502.2	1527.0
45°	1275.6	1302.4	1368.3	1442.5	1469.3
47.5°	1201.4	1234.4	1306.5	1384.8	1413.6
50°	1125.1	1162.2	1240.5	1323.0	1355.9
52.5°	1057.1	1092.2	1174.6	1263.2	1294.1
55°	978.8	1018.0	1108.7	1199.3	1234.4
57.5°	898.5	941.7	1038.6	1137.5	1172.5
60°	820.2	867.6	974.7	1073.6	1112.8
62.5°	743.9	791.3	902.6	1005.6	1044.8
65°	661.5	717.1	832.5	937.6	974.7
67.5°	583.2	642.9	764.5	867.6	904.6
70°	506.9	564.6	694.5	795.4	832.5
72.5°	424.5	490.4	620.3	725.4	764.5
75°	342.1	420.4	548.1	651.2	688.3
77.5°	265.8	346.2	474.0	558.4	577.0
80°	195.8	278.2	389.5	449.2	471.9
82.5°	125.7	208.1	296.7	340.0	358.6
85°	70.1	138.1	193.7	218.4	226.7
87.5°	28.8	59.8	78.3	88.6	88.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)