

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: P311075

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA08-W2A-U-2700K**

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: P311075
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-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 5915.0 lumens
Efficiency: N/A
Efficacy: 102.5 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

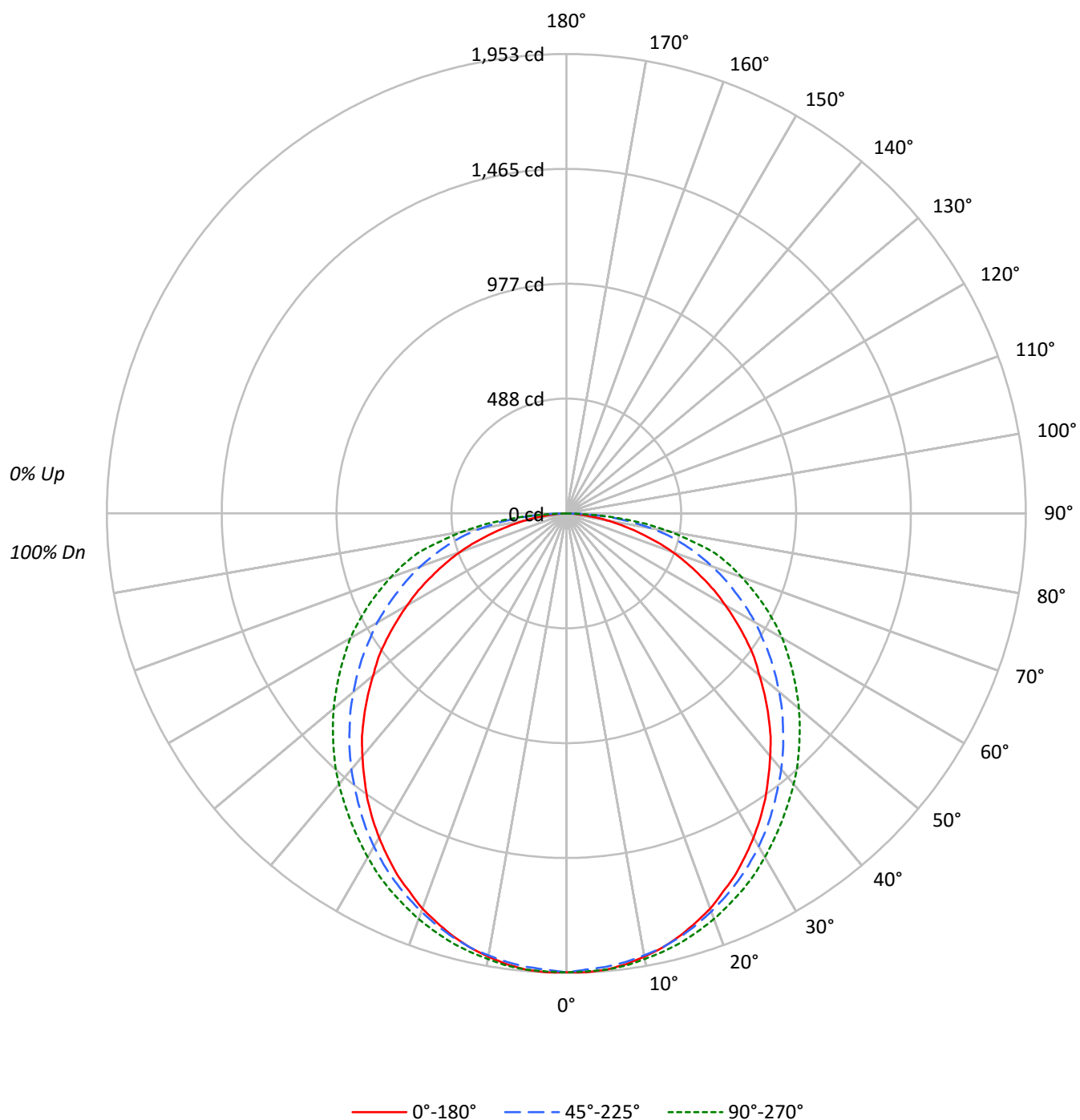
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2625	2625	2625
5°	2629	2613	2629
10°	2614	2606	2628
15°	2591	2597	2630
20°	2560	2580	2627
25°	2520	2561	2625
30°	2473	2540	2622
35°	2424	2514	2624
40°	2368	2496	2640
45°	2312	2480	2663
50°	2243	2473	2703
55°	2187	2477	2757
60°	2102	2498	2852
65°	2006	2524	2955
70°	1899	2602	3119
75°	1694	2714	3408
80°	1444	2874	3482
85°	1030	2848	3333



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.6	3.1
10°-20°	527.9	8.9
20°-30°	797.3	13.5
30°-40°	960.9	16.2
40°-50°	1008.8	17.1
50°-60°	943.8	16.0
60°-70°	779.4	13.2
70°-80°	531.1	9.0
80°-90°	181.1	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°	1509.8	25.5
0°-40°	2470.7	41.8
0°-60°	4423.3	74.8
0°-90°	5915.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5915.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1951	1951	1951	1951	1951	
5°	1947	1945	1935	1947	1947	185
15°	1860	1862	1864	1884	1888	524
25°	1698	1705	1725	1758	1768	781
35°	1476	1492	1531	1582	1598	922
45°	1215	1240	1303	1374	1399	937
55°	932	970	1056	1142	1176	832
65°	630	683	793	893	928	625
75°	326	400	522	620	656	347
85°	67	132	184	208	216	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1950.7	1950.7	1950.7	1950.7	1950.7
2.5°	1952.7	1950.7	1940.9	1950.7	1948.8
5°	1946.8	1944.8	1935.0	1946.8	1946.8
7.5°	1933.1	1933.1	1923.2	1937.0	1938.9
10°	1913.4	1913.4	1907.5	1923.2	1923.2
12.5°	1889.9	1889.9	1889.9	1905.6	1907.5
15°	1860.4	1862.4	1864.4	1884.0	1887.9
17.5°	1825.1	1829.0	1834.9	1858.5	1862.4
20°	1787.8	1791.8	1801.6	1829.0	1834.9
22.5°	1740.7	1750.5	1764.3	1795.7	1801.6
25°	1697.6	1705.4	1725.0	1758.4	1768.2
27.5°	1644.6	1656.3	1681.9	1717.2	1730.9
30°	1591.6	1603.4	1634.8	1676.0	1687.7
32.5°	1534.7	1552.3	1585.7	1628.9	1642.6
35°	1475.8	1491.5	1530.7	1581.8	1597.5
37.5°	1411.0	1432.6	1475.8	1530.7	1550.4
40°	1348.2	1371.8	1420.8	1479.7	1503.3
42.5°	1285.4	1309.0	1363.9	1430.7	1454.2
45°	1214.8	1240.3	1303.1	1373.7	1399.3
47.5°	1144.1	1175.5	1244.2	1318.8	1346.3
50°	1071.5	1106.8	1181.4	1259.9	1291.3
52.5°	1006.8	1040.1	1118.6	1203.0	1232.4
55°	932.2	969.5	1055.8	1142.2	1175.5
57.5°	855.6	896.9	989.1	1083.3	1116.7
60°	781.1	826.2	928.3	1022.5	1059.7
62.5°	708.5	753.6	859.6	957.7	995.0
65°	630.0	682.9	792.8	892.9	928.3
67.5°	555.4	612.3	728.1	826.2	861.5
70°	482.8	537.7	661.4	757.5	792.8
72.5°	404.3	467.1	590.7	690.8	728.1
75°	325.8	400.3	522.0	620.1	655.5
77.5°	253.2	329.7	451.4	531.8	549.5
80°	186.4	264.9	370.9	427.8	449.4
82.5°	119.7	198.2	282.6	323.8	341.5
85°	66.7	131.5	184.5	208.0	215.9
87.5°	27.5	56.9	74.6	84.4	84.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)