

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: P311113

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP250-W2A-U-3500K**

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: P311113
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 5844.0 lumens
Efficiency: N/A
Efficacy: 100.8 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

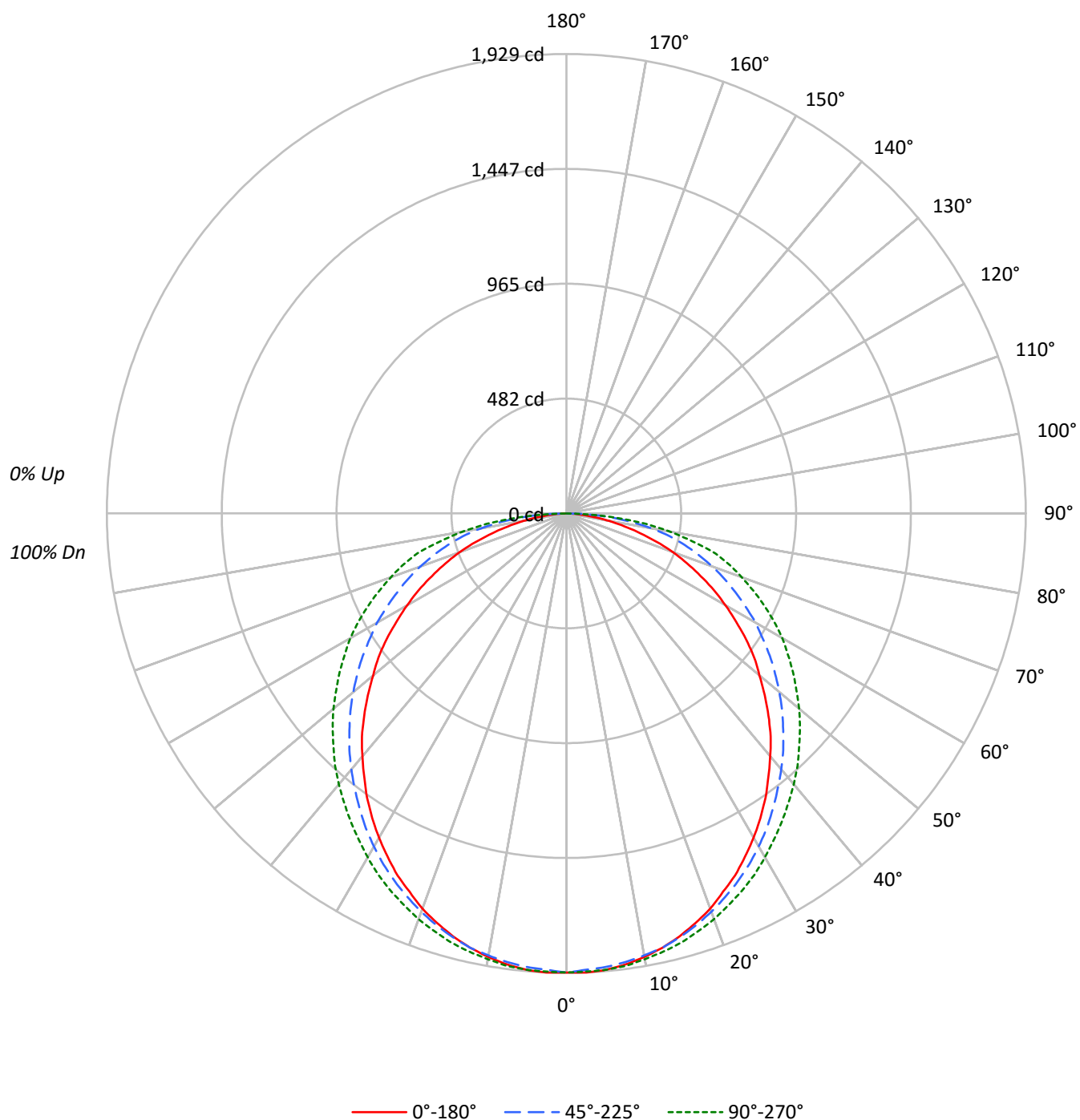
Input Watts (W): 58
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2593	2593	2593
5°	2598	2582	2598
10°	2583	2575	2596
15°	2560	2566	2598
20°	2529	2549	2596
25°	2490	2530	2594
30°	2443	2509	2591
35°	2395	2484	2592
40°	2340	2466	2609
45°	2284	2450	2631
50°	2216	2443	2671
55°	2160	2447	2724
60°	2077	2468	2817
65°	1982	2494	2920
70°	1876	2570	3081
75°	1673	2681	3367
80°	1427	2840	3440
85°	1017	2814	3293



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.4	3.1
10°-20°	521.5	8.9
20°-30°	787.7	13.5
30°-40°	949.4	16.2
40°-50°	996.7	17.1
50°-60°	932.5	16.0
60°-70°	770.1	13.2
70°-80°	524.7	9.0
80°-90°	179.0	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°	1491.7	25.5
0°-40°	2441.1	41.8
0°-60°	4370.3	74.8
0°-90°	5844.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5844.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1927	1927	1927	1927	1927	
5°	1923	1922	1912	1923	1923	183
15°	1838	1840	1842	1861	1865	518
25°	1677	1685	1704	1737	1747	772
35°	1458	1474	1512	1563	1578	911
45°	1200	1225	1288	1357	1382	926
55°	921	958	1043	1128	1161	822
65°	622	675	783	882	917	617
75°	322	396	516	613	648	343
85°	66	130	182	206	213	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1927.3	1927.3	1927.3	1927.3	1927.3
2.5°	1929.2	1927.3	1917.6	1927.3	1925.4
5°	1923.4	1921.5	1911.8	1923.4	1923.4
7.5°	1909.8	1909.8	1900.2	1913.7	1915.7
10°	1890.5	1890.5	1884.6	1900.2	1900.2
12.5°	1867.2	1867.2	1867.2	1882.7	1884.6
15°	1838.1	1840.0	1842.0	1861.4	1865.3
17.5°	1803.2	1807.1	1812.9	1836.2	1840.0
20°	1766.4	1770.2	1779.9	1807.1	1812.9
22.5°	1719.8	1729.5	1743.1	1774.1	1779.9
25°	1677.2	1684.9	1704.3	1737.3	1747.0
27.5°	1624.8	1636.5	1661.7	1696.6	1710.1
30°	1572.5	1584.1	1615.1	1655.8	1667.5
32.5°	1516.2	1533.7	1566.7	1609.3	1622.9
35°	1458.1	1473.6	1512.4	1562.8	1578.3
37.5°	1394.1	1415.4	1458.1	1512.4	1531.8
40°	1332.0	1355.3	1403.8	1462.0	1485.2
42.5°	1270.0	1293.3	1347.6	1413.5	1436.8
45°	1200.2	1225.4	1287.5	1357.3	1382.5
47.5°	1130.4	1161.4	1229.3	1303.0	1330.1
50°	1058.7	1093.6	1167.2	1244.8	1275.8
52.5°	994.7	1027.6	1105.2	1188.6	1217.7
55°	921.0	957.8	1043.1	1128.5	1161.4
57.5°	845.4	886.1	977.2	1070.3	1103.3
60°	771.7	816.3	917.1	1010.2	1047.0
62.5°	700.0	744.6	849.3	946.2	983.0
65°	622.4	674.7	783.3	882.2	917.1
67.5°	548.7	604.9	719.3	816.3	851.2
70°	477.0	531.3	653.4	748.4	783.3
72.5°	399.4	461.5	583.6	682.5	719.3
75°	321.9	395.5	515.8	612.7	647.6
77.5°	250.1	325.7	446.0	525.5	542.9
80°	184.2	261.8	366.5	422.7	444.0
82.5°	118.3	195.8	279.2	319.9	337.4
85°	65.9	129.9	182.3	205.5	213.3
87.5°	27.1	56.2	73.7	83.4	83.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)