

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: P314066

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CA08-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: P314066  
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: 24FCZ2-60HE-UNV-L83050-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 5515.0 lumens  
Efficiency: N/A  
Efficacy: 115.9 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

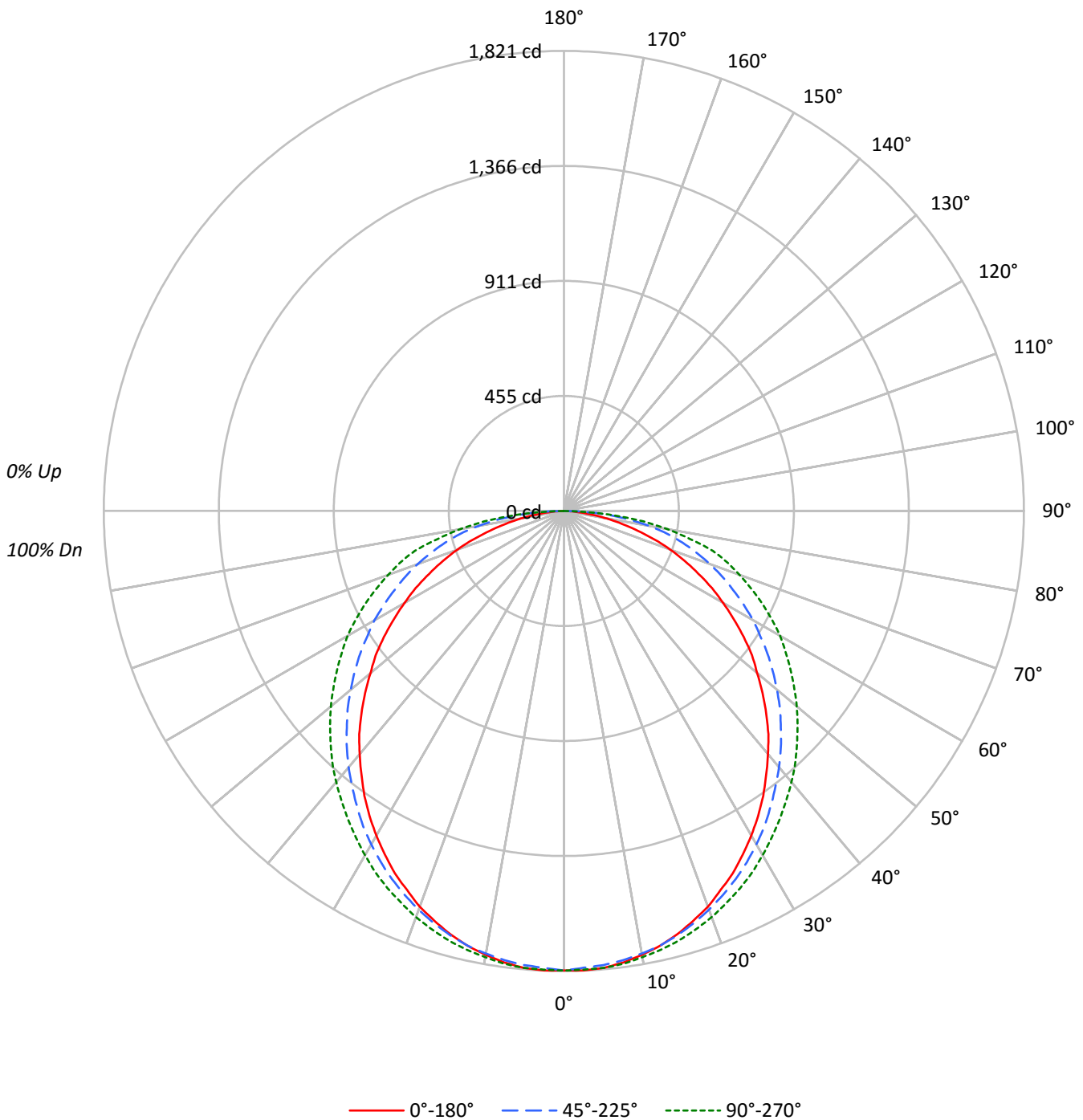
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2447	2447	2447
5°	2452	2437	2452
10°	2437	2430	2450
15°	2416	2421	2452
20°	2387	2405	2450
25°	2350	2388	2447
30°	2305	2368	2445
35°	2260	2344	2446
40°	2208	2327	2462
45°	2155	2312	2482
50°	2091	2306	2520
55°	2039	2309	2571
60°	1960	2329	2659
65°	1870	2353	2755
70°	1771	2426	2908
75°	1579	2530	3177
80°	1347	2679	3247
85°	960	2655	3108



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.1	3.1
10°-20°	492.2	8.9
20°-30°	743.4	13.5
30°-40°	896.0	16.2
40°-50°	940.6	17.1
50°-60°	880.0	16.0
60°-70°	726.7	13.2
70°-80°	495.2	9.0
80°-90°	168.9	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°	1407.7	25.5
0°-40°	2303.7	41.8
0°-60°	4124.2	74.8
0°-90°	5515.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5515.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1819	1819	1819	1819	1819	
5°	1815	1813	1804	1815	1815	172
15°	1735	1736	1738	1757	1760	489
25°	1583	1590	1608	1640	1649	728
35°	1376	1391	1427	1475	1489	860
45°	1133	1156	1215	1281	1305	874
55°	869	904	984	1065	1096	776
65°	587	637	739	832	866	583
75°	304	373	487	578	611	324
85°	62	123	172	194	201	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1818.8	1818.8	1818.8	1818.8	1818.8
2.5°	1820.6	1818.8	1809.7	1818.8	1817.0
5°	1815.1	1813.3	1804.2	1815.1	1815.1
7.5°	1802.3	1802.3	1793.2	1806.0	1807.8
10°	1784.0	1784.0	1778.5	1793.2	1793.2
12.5°	1762.1	1762.1	1762.1	1776.7	1778.5
15°	1734.6	1736.5	1738.3	1756.6	1760.2
17.5°	1701.7	1705.4	1710.8	1732.8	1736.5
20°	1666.9	1670.6	1679.7	1705.4	1710.8
22.5°	1623.0	1632.2	1645.0	1674.2	1679.7
25°	1582.8	1590.1	1608.4	1639.5	1648.6
27.5°	1533.4	1544.3	1568.1	1601.1	1613.9
30°	1483.9	1494.9	1524.2	1562.6	1573.6
32.5°	1430.9	1447.4	1478.5	1518.7	1531.5
35°	1376.0	1390.6	1427.2	1474.8	1489.4
37.5°	1315.6	1335.7	1376.0	1427.2	1445.5
40°	1257.1	1279.0	1324.8	1379.7	1401.6
42.5°	1198.5	1220.5	1271.7	1333.9	1355.9
45°	1132.6	1156.4	1215.0	1280.8	1304.6
47.5°	1066.8	1096.0	1160.1	1229.6	1255.2
50°	999.1	1032.0	1101.5	1174.7	1204.0
52.5°	938.7	969.8	1043.0	1121.7	1149.1
55°	869.1	903.9	984.4	1064.9	1096.0
57.5°	797.8	836.2	922.2	1010.0	1041.1
60°	728.3	770.3	865.5	953.3	988.1
62.5°	660.5	702.6	801.4	892.9	927.7
65°	587.4	636.8	739.2	832.5	865.5
67.5°	517.8	570.9	678.8	770.3	803.3
70°	450.1	501.4	616.6	706.3	739.2
72.5°	376.9	435.5	550.8	644.1	678.8
75°	303.7	373.3	486.7	578.2	611.1
77.5°	236.0	307.4	420.8	495.9	512.3
80°	173.8	247.0	345.8	398.9	419.0
82.5°	111.6	184.8	263.5	301.9	318.4
85°	62.2	122.6	172.0	194.0	201.3
87.5°	25.6	53.1	69.5	78.7	78.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)