

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: P314068

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CA08-W2A-U-4500K**

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: P314068
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 5846.0 lumens
Efficiency: N/A
Efficacy: 117.2 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

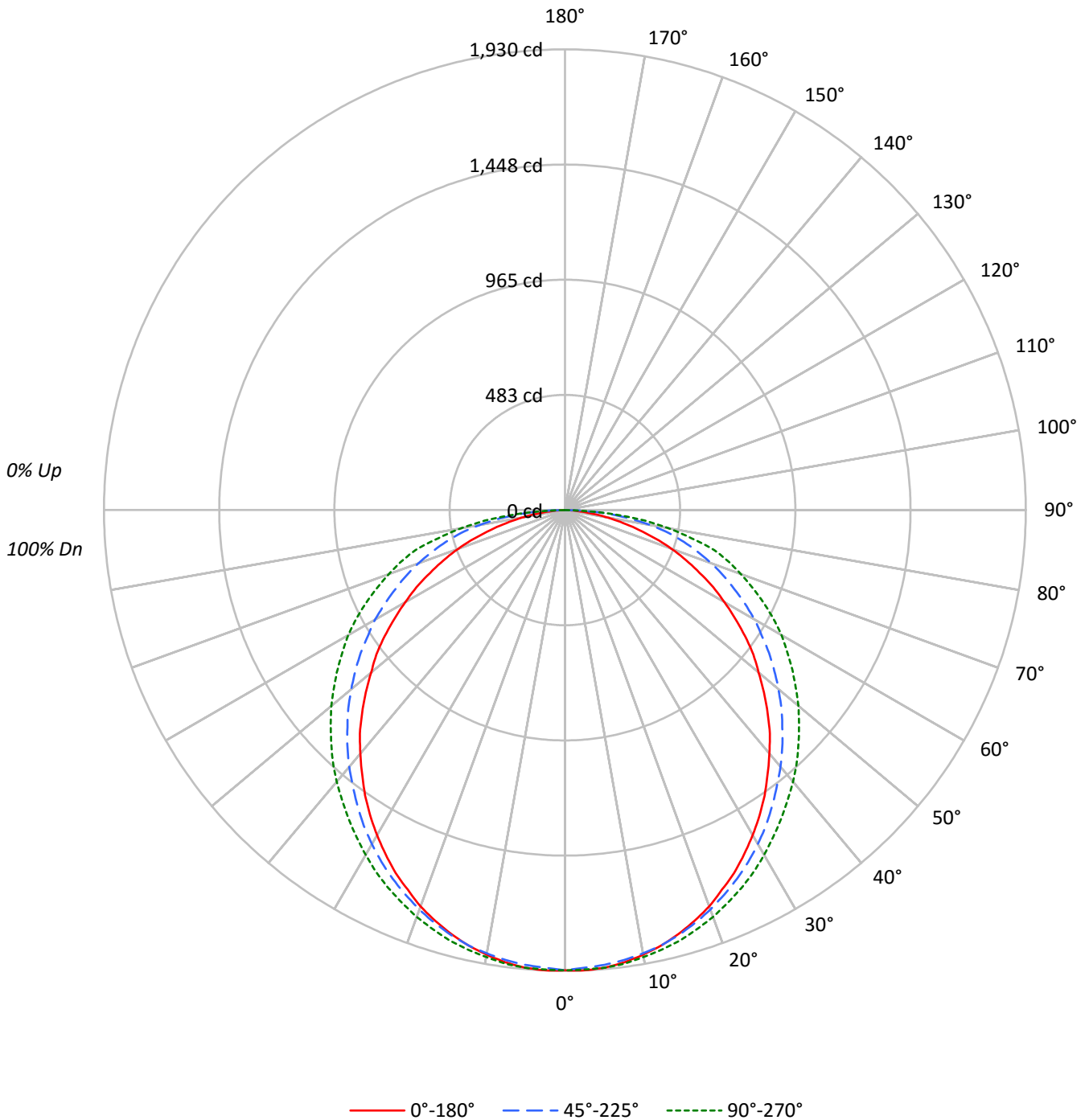
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2594	2594	2594
5°	2599	2583	2599
10°	2584	2576	2597
15°	2561	2567	2599
20°	2530	2550	2597
25°	2491	2531	2594
30°	2444	2510	2592
35°	2396	2485	2593
40°	2340	2467	2610
45°	2285	2451	2631
50°	2217	2444	2672
55°	2161	2448	2725
60°	2077	2469	2819
65°	1982	2495	2921
70°	1877	2571	3083
75°	1674	2682	3368
80°	1428	2841	3442
85°	1017	2814	3294



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.5	3.1
10°-20°	521.7	8.9
20°-30°	788.0	13.5
30°-40°	949.7	16.2
40°-50°	997.0	17.1
50°-60°	932.8	16.0
60°-70°	770.3	13.2
70°-80°	524.9	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°	1492.2	25.5
0°-40°	2441.9	41.8
0°-60°	4371.8	74.8
0°-90°	5846.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5846.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1928	1928	1928	1928	1928	
5°	1924	1922	1912	1924	1924	183
15°	1839	1841	1843	1862	1866	518
25°	1678	1686	1705	1738	1748	772
35°	1459	1474	1513	1563	1579	911
45°	1201	1226	1288	1358	1383	926
55°	921	958	1044	1129	1162	822
65°	623	675	784	882	917	618
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°	1928.0	1928.0	1928.0	1928.0	1928.0
2.5°	1929.9	1928.0	1918.3	1928.0	1926.0
5°	1924.1	1922.1	1912.4	1924.1	1924.1
7.5°	1910.5	1910.5	1900.8	1914.4	1916.3
10°	1891.1	1891.1	1885.3	1900.8	1900.8
12.5°	1867.8	1867.8	1867.8	1883.3	1885.3
15°	1838.7	1840.7	1842.6	1862.0	1865.9
17.5°	1803.8	1807.7	1813.5	1836.8	1840.7
20°	1767.0	1770.9	1780.6	1807.7	1813.5
22.5°	1720.4	1730.1	1743.7	1774.7	1780.6
25°	1677.8	1685.5	1704.9	1737.9	1747.6
27.5°	1625.4	1637.0	1662.2	1697.1	1710.7
30°	1573.0	1584.7	1615.7	1656.4	1668.1
32.5°	1516.8	1534.2	1567.2	1609.9	1623.4
35°	1458.6	1474.1	1512.9	1563.3	1578.8
37.5°	1394.6	1415.9	1458.6	1512.9	1532.3
40°	1332.5	1355.8	1404.3	1462.5	1485.7
42.5°	1270.4	1293.7	1348.0	1414.0	1437.2
45°	1200.6	1225.8	1287.9	1357.7	1382.9
47.5°	1130.8	1161.8	1229.7	1303.4	1330.6
50°	1059.0	1093.9	1167.6	1245.2	1276.3
52.5°	995.0	1028.0	1105.6	1189.0	1218.1
55°	921.3	958.2	1043.5	1128.8	1161.8
57.5°	845.7	886.4	977.6	1070.7	1103.6
60°	772.0	816.6	917.4	1010.5	1047.4
62.5°	700.2	744.8	849.5	946.5	983.4
65°	622.6	675.0	783.6	882.5	917.4
67.5°	548.9	605.2	719.6	816.6	851.5
70°	477.1	531.4	653.6	748.7	783.6
72.5°	399.6	461.6	583.8	682.7	719.6
75°	322.0	395.7	515.9	612.9	647.8
77.5°	250.2	325.9	446.1	525.6	543.1
80°	184.3	261.8	366.6	422.8	444.2
82.5°	118.3	195.9	279.3	320.0	337.5
85°	65.9	130.0	182.3	205.6	213.4
87.5°	27.2	56.2	73.7	83.4	83.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)