

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: P310991

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA08-W2A-U-5500K**

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: P310991  
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-L82765-CA08-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5500K 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**

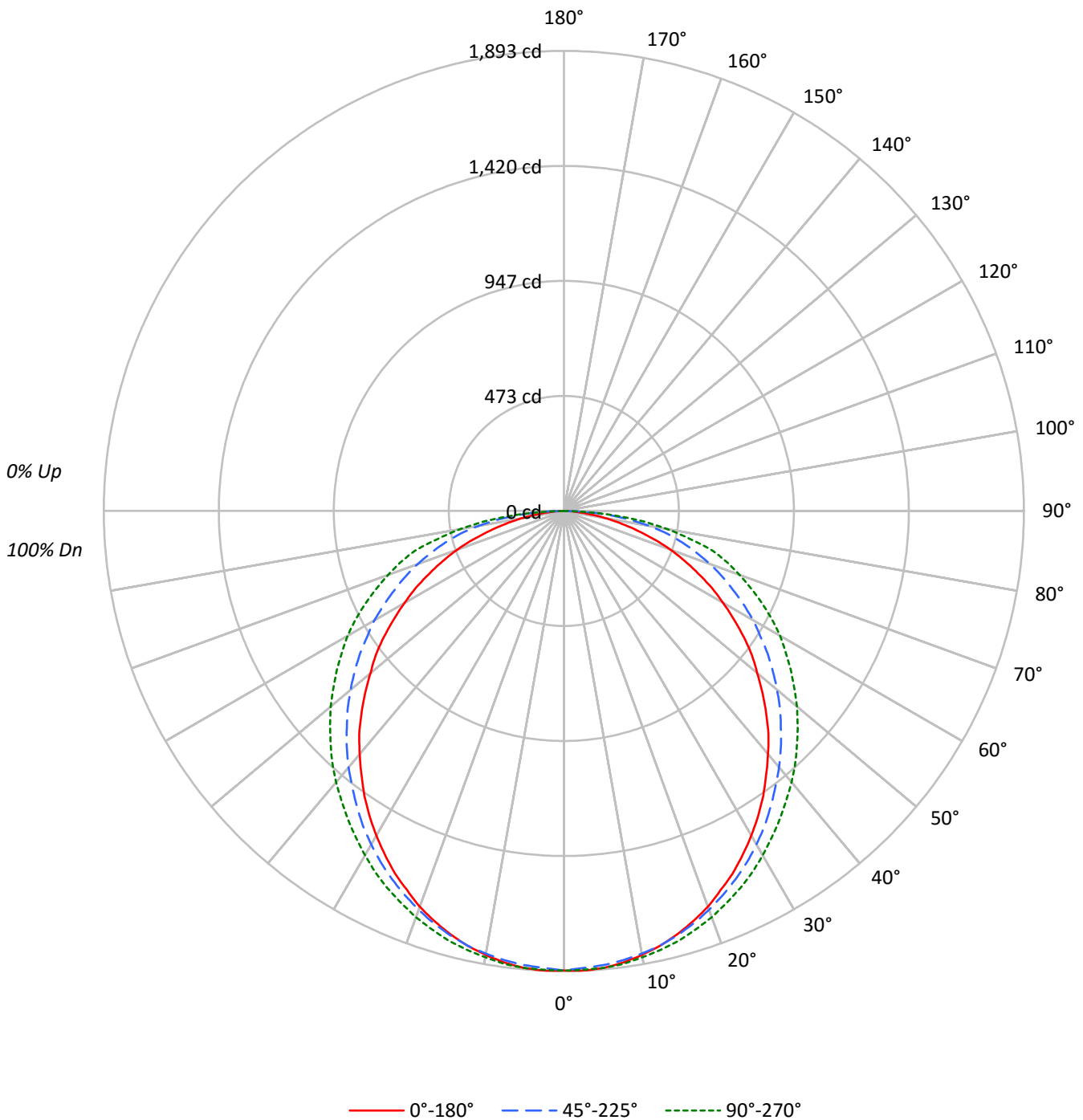
Lumens per Lamp: N/A  
Luminaire Lumens: 5734.0 lumens  
Efficiency: N/A  
Efficacy: 117.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2544	2544	2544
5°	2549	2534	2549
10°	2534	2526	2547
15°	2512	2517	2549
20°	2482	2501	2547
25°	2443	2483	2545
30°	2397	2462	2542
35°	2350	2437	2544
40°	2296	2419	2560
45°	2241	2404	2581
50°	2174	2397	2620
55°	2120	2401	2673
60°	2038	2422	2764
65°	1944	2447	2865
70°	1841	2522	3024
75°	1642	2630	3303
80°	1400	2786	3376
85°	999	2760	3231



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.0	3.1
10°-20°	511.7	8.9
20°-30°	772.9	13.5
30°-40°	931.5	16.2
40°-50°	977.9	17.1
50°-60°	914.9	16.0
60°-70°	755.6	13.2
70°-80°	514.9	9.0
80°-90°	175.6	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°	1463.6	25.5
0°-40°	2395.1	41.8
0°-60°	4288.0	74.8
0°-90°	5734.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5734.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1891	1891	1891	1891	1891	
5°	1887	1885	1876	1887	1887	179
15°	1804	1805	1807	1826	1830	508
25°	1646	1653	1672	1705	1714	757
35°	1431	1446	1484	1533	1549	894
45°	1178	1202	1263	1332	1356	908
55°	904	940	1024	1107	1140	807
65°	611	662	769	866	900	606
75°	316	388	506	601	635	337
85°	65	128	179	202	209	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1891.0	1891.0	1891.0	1891.0	1891.0
2.5°	1892.9	1891.0	1881.5	1891.0	1889.1
5°	1887.2	1885.3	1875.8	1887.2	1887.2
7.5°	1873.9	1873.9	1864.4	1877.7	1879.6
10°	1854.9	1854.9	1849.2	1864.4	1864.4
12.5°	1832.0	1832.0	1832.0	1847.3	1849.2
15°	1803.5	1805.4	1807.3	1826.3	1830.1
17.5°	1769.3	1773.1	1778.8	1801.6	1805.4
20°	1733.1	1736.9	1746.4	1773.1	1778.8
22.5°	1687.5	1697.0	1710.3	1740.7	1746.4
25°	1645.6	1653.2	1672.2	1704.6	1714.1
27.5°	1594.2	1605.7	1630.4	1664.6	1678.0
30°	1542.9	1554.3	1584.7	1624.7	1636.1
32.5°	1487.7	1504.8	1537.2	1579.0	1592.3
35°	1430.6	1445.9	1483.9	1533.4	1548.6
37.5°	1367.9	1388.8	1430.6	1483.9	1502.9
40°	1307.0	1329.8	1377.4	1434.4	1457.3
42.5°	1246.1	1268.9	1322.2	1386.9	1409.7
45°	1177.6	1202.3	1263.2	1331.7	1356.4
47.5°	1109.1	1139.6	1206.1	1278.4	1305.1
50°	1038.7	1073.0	1145.3	1221.4	1251.8
52.5°	976.0	1008.3	1084.4	1166.2	1194.7
55°	903.7	939.8	1023.5	1107.2	1139.6
57.5°	829.5	869.4	958.8	1050.1	1082.5
60°	757.2	800.9	899.9	991.2	1027.3
62.5°	686.8	730.5	833.3	928.4	964.5
65°	610.7	662.0	768.6	865.6	899.9
67.5°	538.4	593.6	705.8	800.9	835.2
70°	468.0	521.3	641.1	734.3	768.6
72.5°	391.9	452.8	572.6	669.7	705.8
75°	315.8	388.1	506.0	601.2	635.4
77.5°	245.4	319.6	437.6	515.6	532.7
80°	180.7	256.8	359.6	414.7	435.7
82.5°	116.0	192.1	274.0	313.9	331.0
85°	64.7	127.5	178.8	201.7	209.3
87.5°	26.6	55.2	72.3	81.8	81.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)