

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: P311035

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CA08-W2A-U-5000K**

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: P311035  
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: 24FCZ2-65HE-UNV-L82765-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5000K 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**

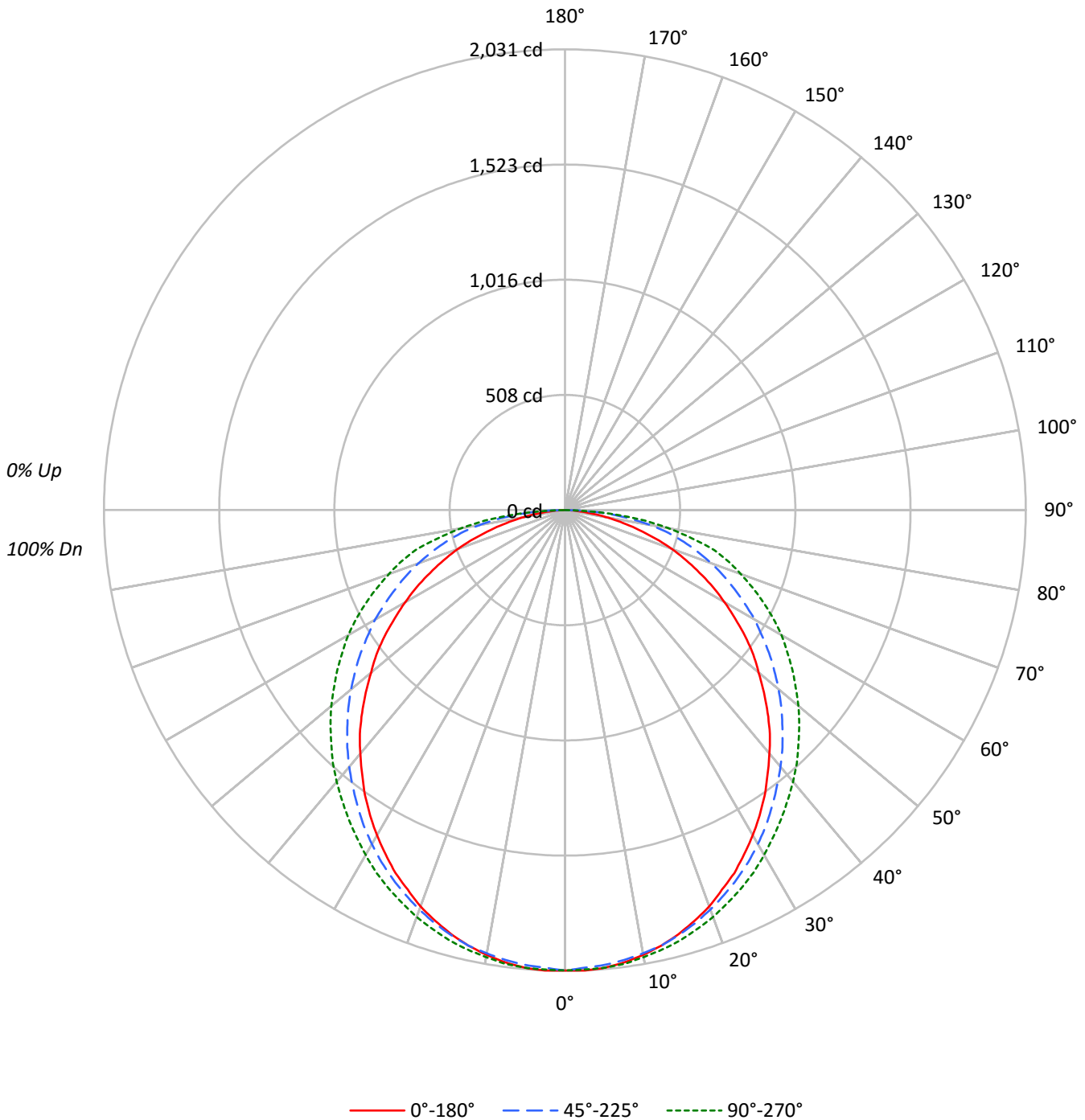
Lumens per Lamp: N/A  
Luminaire Lumens: 6153.0 lumens  
Efficiency: N/A  
Efficacy: 114.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2730	2730	2730
5°	2735	2719	2735
10°	2719	2711	2733
15°	2696	2701	2736
20°	2663	2683	2733
25°	2622	2664	2731
30°	2572	2642	2728
35°	2522	2615	2729
40°	2463	2596	2747
45°	2405	2579	2770
50°	2333	2573	2812
55°	2275	2576	2868
60°	2186	2598	2967
65°	2086	2626	3074
70°	1976	2707	3244
75°	1762	2823	3544
80°	1502	2989	3622
85°	1071	2963	3467



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	192.0	3.1
10°-20°	549.1	8.9
20°-30°	829.4	13.5
30°-40°	999.6	16.2
40°-50°	1049.4	17.1
50°-60°	981.8	16.0
60°-70°	810.8	13.2
70°-80°	552.5	9.0
80°-90°	188.4	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°	1570.5	25.5
0°-40°	2570.1	41.8
0°-60°	4601.3	74.8
0°-90°	6153.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6153.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2029	2029	2029	2029	2029	
5°	2025	2023	2013	2025	2025	192
15°	1935	1937	1939	1960	1964	546
25°	1766	1774	1794	1829	1839	812
35°	1535	1552	1592	1645	1662	959
45°	1264	1290	1356	1429	1456	975
55°	970	1008	1098	1188	1223	866
65°	655	710	825	929	966	650
75°	339	416	543	645	682	361
85°	69	137	192	216	225	87
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2029.2	2029.2	2029.2	2029.2	2029.2
2.5°	2031.2	2029.2	2019.0	2029.2	2027.2
5°	2025.1	2023.1	2012.9	2025.1	2025.1
7.5°	2010.8	2010.8	2000.6	2014.9	2017.0
10°	1990.4	1990.4	1984.3	2000.6	2000.6
12.5°	1965.9	1965.9	1965.9	1982.3	1984.3
15°	1935.3	1937.3	1939.4	1959.8	1963.9
17.5°	1898.6	1902.6	1908.8	1933.3	1937.3
20°	1859.8	1863.8	1874.1	1902.6	1908.8
22.5°	1810.8	1821.0	1835.3	1867.9	1874.1
25°	1765.9	1774.0	1794.4	1829.1	1839.4
27.5°	1710.7	1723.0	1749.5	1786.3	1800.6
30°	1655.6	1667.9	1700.5	1743.4	1755.7
32.5°	1596.4	1614.8	1649.5	1694.4	1708.7
35°	1535.2	1551.5	1592.3	1645.4	1661.7
37.5°	1467.8	1490.3	1535.2	1592.3	1612.7
40°	1402.5	1427.0	1478.0	1539.3	1563.8
42.5°	1337.2	1361.7	1418.8	1488.2	1512.7
45°	1263.7	1290.2	1355.5	1429.0	1455.6
47.5°	1190.2	1222.8	1294.3	1371.9	1400.4
50°	1114.6	1151.4	1229.0	1310.6	1343.3
52.5°	1047.3	1082.0	1163.6	1251.4	1282.0
55°	969.7	1008.5	1098.3	1188.1	1222.8
57.5°	890.1	932.9	1028.9	1126.9	1161.6
60°	812.5	859.5	965.6	1063.6	1102.4
62.5°	737.0	783.9	894.2	996.2	1035.0
65°	655.3	710.4	824.7	928.9	965.6
67.5°	577.7	636.9	757.4	859.5	896.2
70°	502.2	559.4	688.0	788.0	824.7
72.5°	420.5	485.9	614.5	718.6	757.4
75°	338.9	416.5	543.0	645.1	681.8
77.5°	263.3	343.0	469.5	553.2	571.6
80°	193.9	275.6	385.8	445.0	467.5
82.5°	124.5	206.2	294.0	336.8	355.2
85°	69.4	136.8	191.9	216.4	224.6
87.5°	28.6	59.2	77.6	87.8	87.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)