

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: P314108

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CP187-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: P314108  
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-L83050-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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**

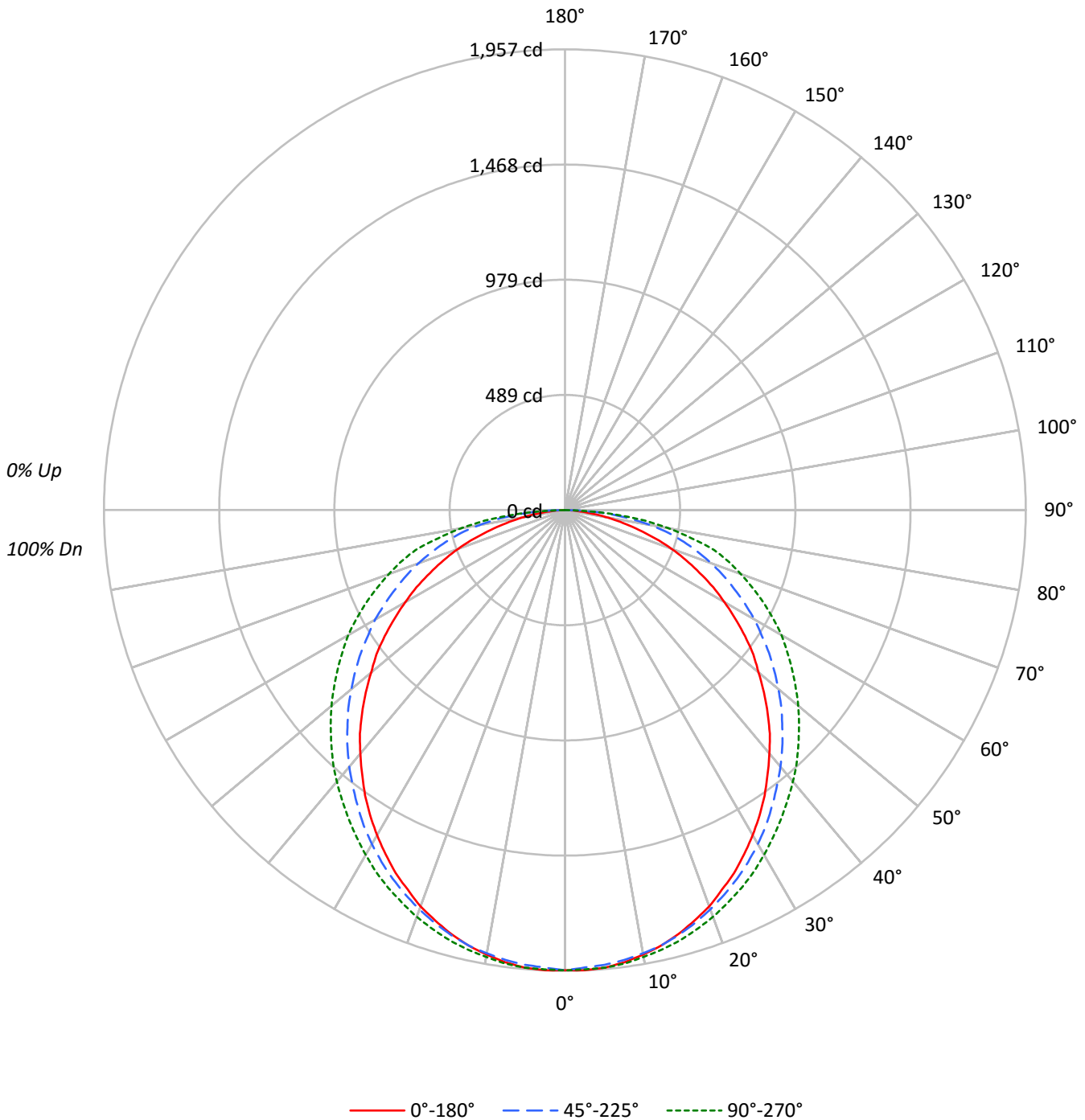
Lumens per Lamp: N/A  
Luminaire Lumens: 5927.0 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 55.2  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2630	2630	2630
5°	2635	2619	2635
10°	2620	2611	2633
15°	2597	2602	2635
20°	2565	2585	2633
25°	2525	2566	2630
30°	2478	2545	2628
35°	2429	2519	2629
40°	2373	2501	2646
45°	2316	2484	2668
50°	2247	2478	2708
55°	2191	2482	2763
60°	2106	2503	2858
65°	2010	2529	2961
70°	1903	2607	3126
75°	1697	2719	3414
80°	1447	2880	3489
85°	1033	2853	3339



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.0	3.1
10°-20°	528.9	8.9
20°-30°	798.9	13.5
30°-40°	962.9	16.2
40°-50°	1010.9	17.1
50°-60°	945.7	16.0
60°-70°	781.0	13.2
70°-80°	532.2	9.0
80°-90°	181.5	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°	1512.9	25.5
0°-40°	2475.7	41.8
0°-60°	4432.3	74.8
0°-90°	5927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5927.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1955	1955	1955	1955	1955	
5°	1951	1949	1939	1951	1951	185
15°	1864	1866	1868	1888	1892	525
25°	1701	1709	1728	1762	1772	783
35°	1479	1494	1534	1585	1601	924
45°	1217	1243	1306	1376	1402	939
55°	934	971	1058	1144	1178	834
65°	631	684	794	895	930	626
75°	326	401	523	621	657	348
85°	67	132	185	208	216	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1954.7	1954.7	1954.7	1954.7	1954.7
2.5°	1956.6	1954.7	1944.8	1954.7	1952.7
5°	1950.7	1948.8	1938.9	1950.7	1950.7
7.5°	1937.0	1937.0	1927.1	1940.9	1942.9
10°	1917.3	1917.3	1911.4	1927.1	1927.1
12.5°	1893.7	1893.7	1893.7	1909.4	1911.4
15°	1864.2	1866.2	1868.1	1887.8	1891.7
17.5°	1828.8	1832.8	1838.7	1862.2	1866.2
20°	1791.5	1795.4	1805.2	1832.8	1838.7
22.5°	1744.3	1754.1	1767.9	1799.3	1805.2
25°	1701.0	1708.9	1728.5	1762.0	1771.8
27.5°	1647.9	1659.7	1685.3	1720.7	1734.4
30°	1594.8	1606.6	1638.1	1679.4	1691.2
32.5°	1537.8	1555.5	1588.9	1632.2	1645.9
35°	1478.8	1494.5	1533.8	1585.0	1600.7
37.5°	1413.9	1435.5	1478.8	1533.8	1553.5
40°	1351.0	1374.6	1423.7	1482.7	1506.3
42.5°	1288.0	1311.6	1366.7	1433.6	1457.2
45°	1217.2	1242.8	1305.7	1376.5	1402.1
47.5°	1146.5	1177.9	1246.7	1321.5	1349.0
50°	1073.7	1109.1	1183.8	1262.5	1293.9
52.5°	1008.8	1042.2	1120.9	1205.4	1234.9
55°	934.1	971.4	1058.0	1144.5	1177.9
57.5°	857.4	898.7	991.1	1085.5	1118.9
60°	782.7	827.9	930.1	1024.5	1061.9
62.5°	709.9	755.1	861.3	959.6	997.0
65°	631.2	684.3	794.5	894.7	930.1
67.5°	556.5	613.5	729.6	827.9	863.3
70°	483.8	538.8	662.7	759.1	794.5
72.5°	405.1	468.0	591.9	692.2	729.6
75°	326.4	401.2	523.1	621.4	656.8
77.5°	253.7	330.4	452.3	532.9	550.6
80°	186.8	265.5	371.7	428.7	450.3
82.5°	120.0	198.6	283.2	324.5	342.2
85°	66.9	131.8	184.8	208.4	216.3
87.5°	27.5	57.0	74.7	84.6	84.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)