

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: P314107

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CP187-W2A-U-4000K**

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: P314107  
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-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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**

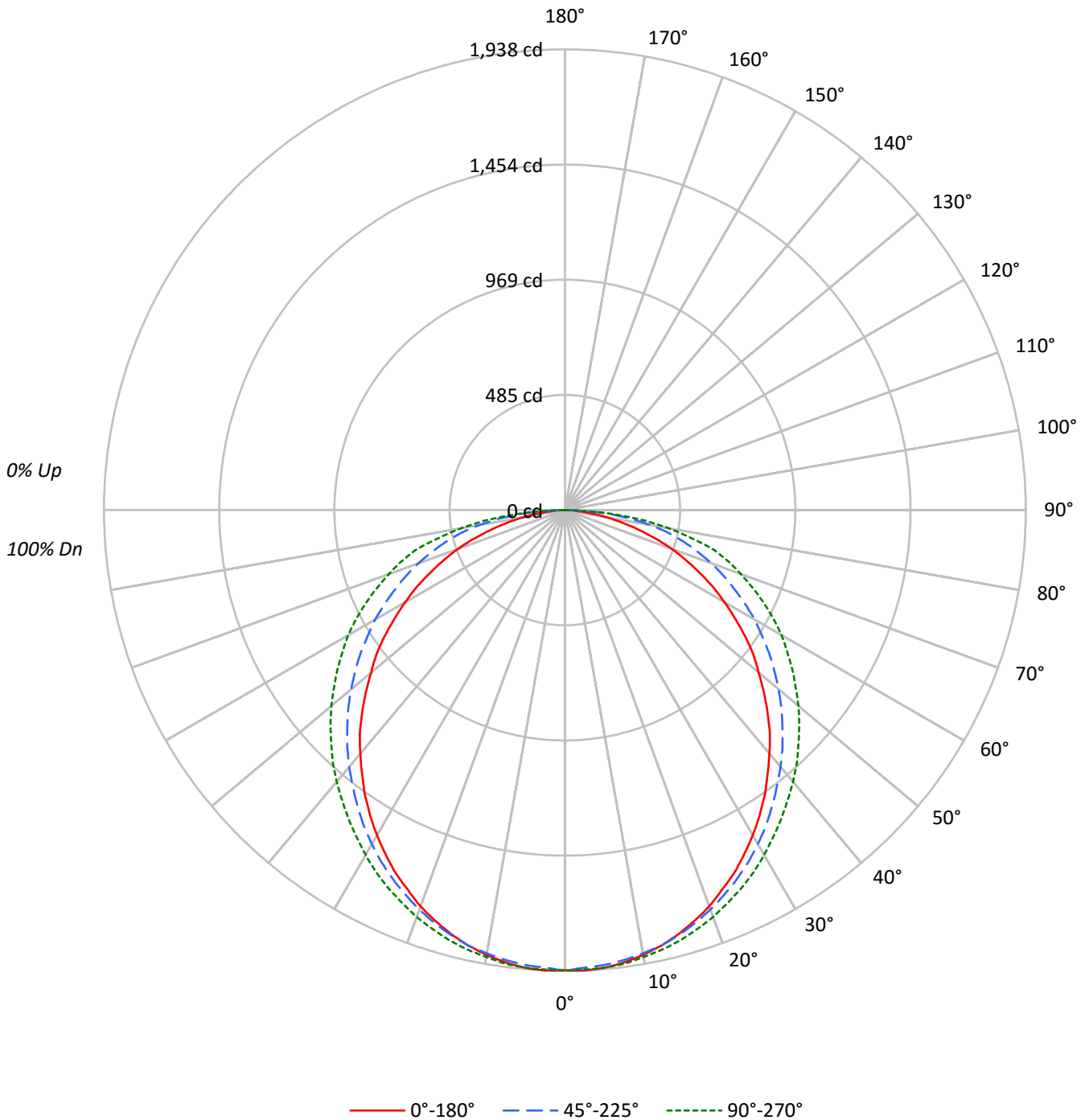
Lumens per Lamp: N/A  
Luminaire Lumens: 5871.0 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2605	2605	2605
5°	2610	2594	2610
10°	2595	2587	2608
15°	2572	2578	2610
20°	2541	2560	2608
25°	2501	2542	2606
30°	2454	2521	2603
35°	2406	2496	2604
40°	2350	2477	2621
45°	2294	2461	2643
50°	2226	2454	2683
55°	2170	2458	2737
60°	2086	2479	2831
65°	1991	2505	2933
70°	1885	2582	3096
75°	1681	2693	3382
80°	1433	2853	3457
85°	1022	2827	3308



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.2	3.1
10°-20°	523.9	8.9
20°-30°	791.4	13.5
30°-40°	953.8	16.2
40°-50°	1001.3	17.1
50°-60°	936.8	16.0
60°-70°	773.6	13.2
70°-80°	527.2	9.0
80°-90°	179.8	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°	1498.6	25.5
0°-40°	2452.4	41.8
0°-60°	4390.5	74.8
0°-90°	5871.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5871.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1936	1936	1936	1936	1936	
5°	1932	1930	1921	1932	1932	183
15°	1847	1848	1850	1870	1874	521
25°	1685	1693	1712	1745	1755	775
35°	1465	1480	1519	1570	1586	915
45°	1206	1231	1293	1364	1389	930
55°	925	962	1048	1134	1167	826
65°	625	678	787	886	921	620
75°	323	397	518	616	651	345
85°	66	130	183	206	214	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1936.2	1936.2	1936.2	1936.2	1936.2
2.5°	1938.2	1936.2	1926.5	1936.2	1934.3
5°	1932.3	1930.4	1920.6	1932.3	1932.3
7.5°	1918.7	1918.7	1908.9	1922.6	1924.5
10°	1899.2	1899.2	1893.4	1908.9	1908.9
12.5°	1875.8	1875.8	1875.8	1891.4	1893.4
15°	1846.6	1848.5	1850.5	1870.0	1873.9
17.5°	1811.5	1815.4	1821.3	1844.7	1848.5
20°	1774.5	1778.4	1788.2	1815.4	1821.3
22.5°	1727.8	1737.5	1751.2	1782.3	1788.2
25°	1684.9	1692.7	1712.2	1745.3	1755.1
27.5°	1632.3	1644.0	1669.3	1704.4	1718.0
30°	1579.7	1591.4	1622.6	1663.5	1675.2
32.5°	1523.3	1540.8	1573.9	1616.8	1630.4
35°	1464.8	1480.4	1519.4	1570.0	1585.6
37.5°	1400.5	1422.0	1464.8	1519.4	1538.8
40°	1338.2	1361.6	1410.3	1468.7	1492.1
42.5°	1275.9	1299.2	1353.8	1420.0	1443.4
45°	1205.7	1231.1	1293.4	1363.5	1388.8
47.5°	1135.6	1166.8	1235.0	1309.0	1336.3
50°	1063.5	1098.6	1172.6	1250.5	1281.7
52.5°	999.3	1032.4	1110.3	1194.1	1223.3
55°	925.2	962.3	1048.0	1133.7	1166.8
57.5°	849.3	890.2	981.7	1075.2	1108.4
60°	775.3	820.1	921.4	1014.9	1051.9
62.5°	703.2	748.0	853.2	950.6	987.6
65°	625.3	677.9	786.9	886.3	921.4
67.5°	551.3	607.7	722.7	820.1	855.1
70°	479.2	533.7	656.4	751.9	786.9
72.5°	401.3	463.6	586.3	685.7	722.7
75°	323.4	397.4	518.1	615.5	650.6
77.5°	251.3	327.2	448.0	527.9	545.4
80°	185.0	263.0	368.2	424.6	446.1
82.5°	118.8	196.7	280.5	321.4	338.9
85°	66.2	130.5	183.1	206.5	214.3
87.5°	27.3	56.5	74.0	83.8	83.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)