

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: P314112

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CP250-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: P314112  
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-CP250-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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**

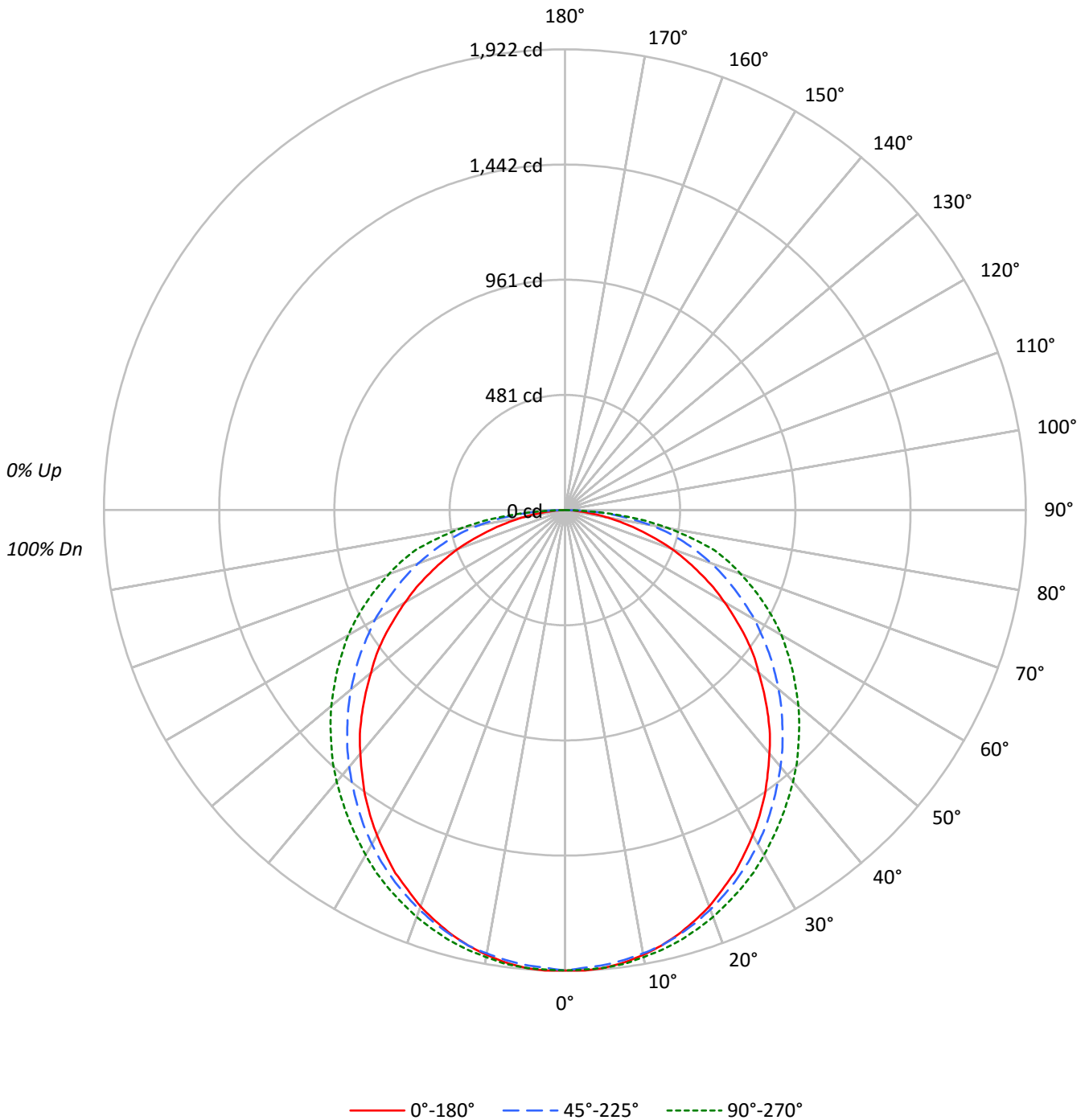
Lumens per Lamp: N/A  
Luminaire Lumens: 5823.0 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2584	2584	2584
5°	2588	2573	2588
10°	2574	2566	2587
15°	2551	2557	2589
20°	2520	2539	2586
25°	2481	2521	2584
30°	2434	2500	2581
35°	2386	2475	2583
40°	2331	2457	2599
45°	2276	2441	2621
50°	2208	2434	2661
55°	2153	2438	2715
60°	2069	2459	2807
65°	1975	2485	2909
70°	1870	2561	3070
75°	1667	2672	3355
80°	1422	2829	3428
85°	1014	2803	3281



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	181.7	3.1
10°-20°	519.7	8.9
20°-30°	784.9	13.5
30°-40°	946.0	16.2
40°-50°	993.1	17.1
50°-60°	929.1	16.0
60°-70°	767.3	13.2
70°-80°	522.9	9.0
80°-90°	178.3	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°	1486.3	25.5
0°-40°	2432.3	41.8
0°-60°	4354.5	74.8
0°-90°	5823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1920	1920	1920	1920	1920	
5°	1916	1915	1905	1916	1916	182
15°	1832	1833	1835	1855	1859	516
25°	1671	1679	1698	1731	1741	769
35°	1453	1468	1507	1557	1573	908
45°	1196	1221	1283	1352	1378	922
55°	918	954	1039	1124	1157	819
65°	620	672	780	879	914	615
75°	321	394	514	610	645	342
85°	66	129	182	205	212	82
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1920.4	1920.4	1920.4	1920.4	1920.4
2.5°	1922.3	1920.4	1910.7	1920.4	1918.4
5°	1916.5	1914.6	1904.9	1916.5	1916.5
7.5°	1903.0	1903.0	1893.3	1906.9	1908.8
10°	1883.7	1883.7	1877.9	1893.3	1893.3
12.5°	1860.5	1860.5	1860.5	1875.9	1877.9
15°	1831.5	1833.4	1835.4	1854.7	1858.6
17.5°	1796.7	1800.6	1806.4	1829.6	1833.4
20°	1760.0	1763.9	1773.5	1800.6	1806.4
22.5°	1713.7	1723.3	1736.8	1767.7	1773.5
25°	1671.2	1678.9	1698.2	1731.0	1740.7
27.5°	1619.0	1630.6	1655.7	1690.5	1704.0
30°	1566.8	1578.4	1609.3	1649.9	1661.5
32.5°	1510.8	1528.2	1561.0	1603.5	1617.1
35°	1452.8	1468.3	1506.9	1557.2	1572.6
37.5°	1389.1	1410.3	1452.8	1506.9	1526.3
40°	1327.3	1350.4	1398.7	1456.7	1479.9
42.5°	1265.4	1288.6	1342.7	1408.4	1431.6
45°	1195.9	1221.0	1282.8	1352.4	1377.5
47.5°	1126.3	1157.2	1224.9	1298.3	1325.3
50°	1054.9	1089.6	1163.0	1240.3	1271.2
52.5°	991.1	1023.9	1101.2	1184.3	1213.3
55°	917.7	954.4	1039.4	1124.4	1157.2
57.5°	842.3	882.9	973.7	1066.4	1099.3
60°	768.9	813.4	913.8	1006.6	1043.3
62.5°	697.4	741.9	846.2	942.8	979.5
65°	620.2	672.3	780.5	879.0	913.8
67.5°	546.7	602.8	716.8	813.4	848.1
70°	475.3	529.4	651.1	745.7	780.5
72.5°	398.0	459.8	581.5	680.1	716.8
75°	320.7	394.1	513.9	610.5	645.3
77.5°	249.2	324.6	444.4	523.6	541.0
80°	183.5	260.8	365.1	421.2	442.4
82.5°	117.8	195.1	278.2	318.8	336.2
85°	65.7	129.4	181.6	204.8	212.5
87.5°	27.0	56.0	73.4	83.1	83.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)