

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: P311712

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-5700K**

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: P311712  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
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-S-CA08-W2A-U-5700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5700K 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**

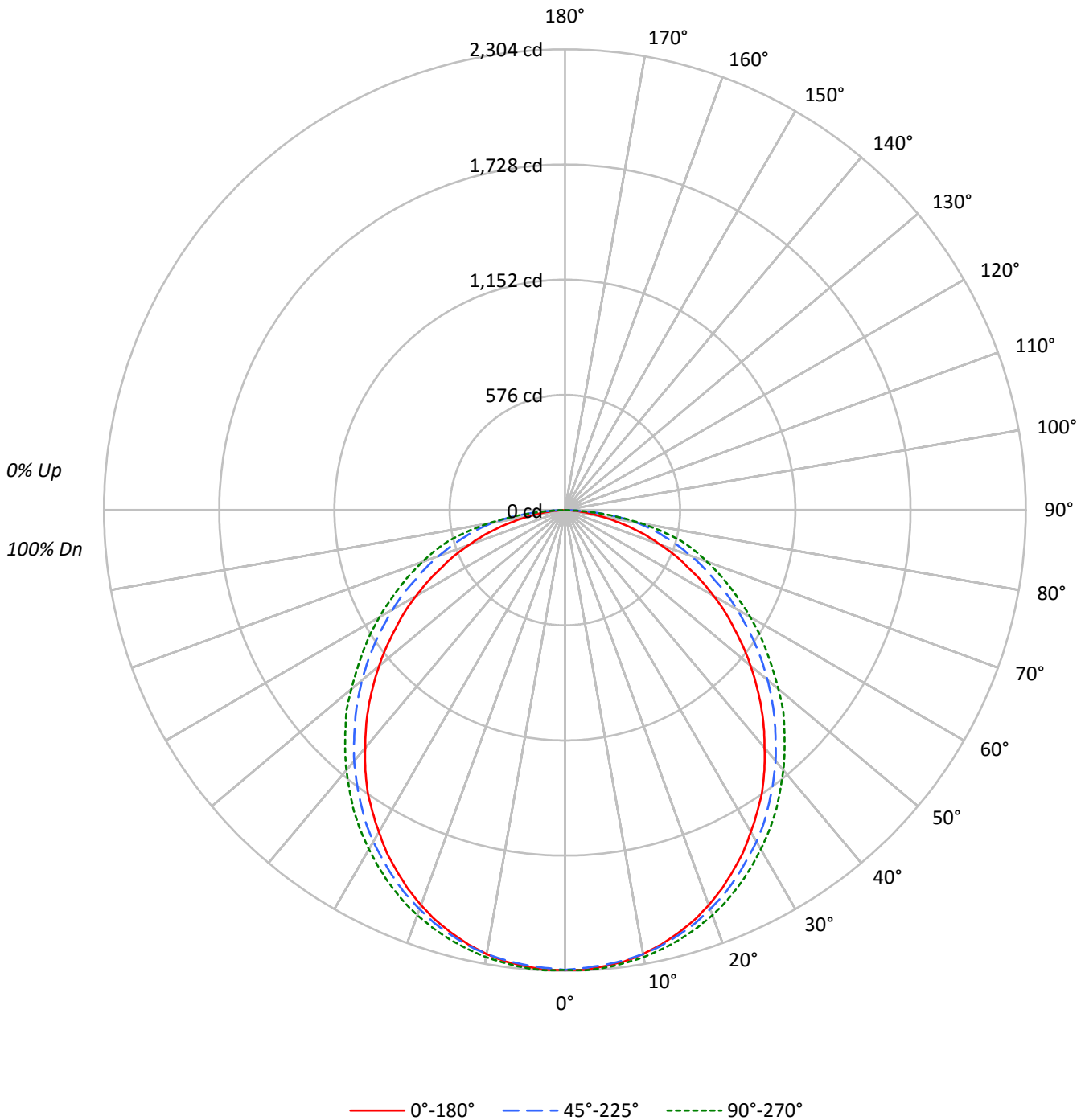
Lumens per Lamp: N/A  
Luminaire Lumens: 6546.0 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 54.1  
Input Voltage (V): NR  
Input Current (A<sub>in</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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3094	3094	3094
5°	3092	3083	3103
10°	3079	3079	3102
15°	3050	3064	3096
20°	3010	3040	3087
25°	2954	3010	3068
30°	2888	2975	3043
35°	2824	2927	3019
40°	2728	2878	2984
45°	2639	2821	2951
50°	2537	2768	2916
55°	2424	2717	2887
60°	2311	2675	2882
65°	2165	2628	2899
70°	2004	2642	2977
75°	1795	2691	3146
80°	1450	2851	3077
85°	1091	2504	2439



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.7	3.3
10°-20°	622.1	9.5
20°-30°	935.1	14.3
30°-40°	1113.9	17.0
40°-50°	1140.0	17.4
50°-60°	1026.3	15.7
60°-70°	806.0	12.3
70°-80°	523.1	8.0
80°-90°	161.8	2.5
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°	1774.9	27.1
0°-40°	2888.8	44.1
0°-60°	5055.1	77.2
0°-90°	6546.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6546.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2300	2300	2300	2300	2300	
5°	2289	2293	2283	2296	2298	218
15°	2190	2196	2200	2219	2223	617
25°	1990	2006	2027	2060	2067	917
35°	1720	1740	1782	1826	1838	1073
45°	1387	1420	1482	1539	1551	1069
55°	1033	1079	1158	1218	1231	926
65°	680	732	826	894	911	677
75°	345	412	518	588	605	365
85°	71	131	162	158	158	85
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2299.7	2299.7	2299.7	2299.7	2299.7
2.5°	2301.7	2301.7	2291.3	2301.7	2303.8
5°	2289.3	2293.4	2283.0	2295.5	2297.6
7.5°	2276.8	2276.8	2270.5	2283.0	2285.1
10°	2253.9	2256.0	2253.9	2268.5	2270.5
12.5°	2224.8	2229.0	2231.0	2245.6	2247.7
15°	2189.5	2195.7	2199.8	2218.6	2222.7
17.5°	2149.9	2156.2	2166.6	2187.4	2191.5
20°	2102.1	2110.4	2122.9	2149.9	2156.2
22.5°	2050.1	2058.5	2079.3	2104.2	2114.6
25°	1989.8	2006.5	2027.3	2060.5	2066.8
27.5°	1929.5	1944.1	1971.1	2006.5	2014.8
30°	1858.9	1881.7	1915.0	1950.3	1958.7
32.5°	1790.2	1813.1	1852.6	1890.0	1900.4
35°	1719.5	1740.3	1781.9	1825.6	1838.1
37.5°	1638.5	1665.5	1711.2	1754.9	1767.4
40°	1553.2	1586.5	1638.5	1684.2	1698.7
42.5°	1472.1	1507.5	1559.4	1609.3	1626.0
45°	1386.9	1420.1	1482.5	1538.6	1551.1
47.5°	1299.5	1337.0	1403.5	1459.6	1480.4
50°	1212.2	1251.7	1322.4	1380.6	1393.1
52.5°	1124.9	1166.5	1241.3	1303.7	1309.9
55°	1033.4	1079.1	1158.1	1218.4	1230.9
57.5°	950.2	989.7	1075.0	1137.4	1151.9
60°	858.7	902.4	993.9	1052.1	1070.8
62.5°	771.4	817.1	912.8	971.0	987.6
65°	679.9	731.9	825.5	894.1	910.7
67.5°	600.9	650.8	750.6	817.1	833.8
70°	509.4	565.6	671.6	740.2	756.8
72.5°	430.4	488.6	594.7	661.2	686.2
75°	345.2	411.7	517.7	588.4	605.1
77.5°	262.0	338.9	447.0	501.1	501.1
80°	187.1	268.2	368.0	393.0	397.1
82.5°	122.7	201.7	272.4	270.3	270.3
85°	70.7	131.0	162.2	158.0	158.0
87.5°	27.0	54.1	58.2	58.2	56.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)