

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: P311753

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CA08-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: P311753  
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: 24FCZ2-70HE-UNV-L82765-S-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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

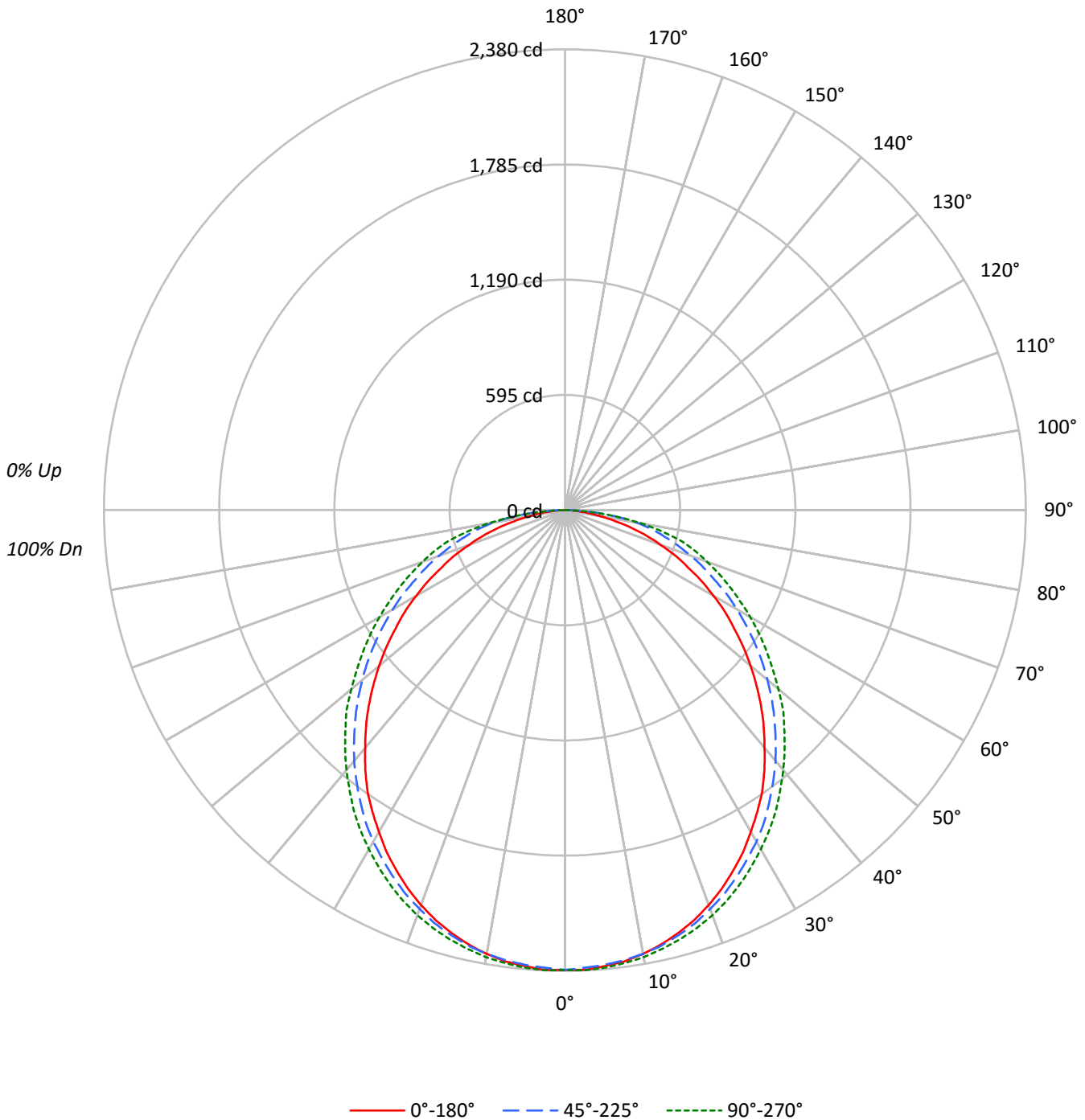
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6761.0 lumens  
Efficiency: N/A  
Efficacy: 115.8 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): 58.4  
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°	3196	3196	3196
5°	3193	3185	3205
10°	3180	3180	3204
15°	3150	3165	3198
20°	3109	3139	3189
25°	3051	3109	3169
30°	2983	3073	3143
35°	2917	3023	3118
40°	2818	2972	3082
45°	2726	2914	3048
50°	2621	2859	3012
55°	2504	2806	2982
60°	2387	2762	2976
65°	2236	2714	2995
70°	2070	2729	3075
75°	1853	2780	3249
80°	1498	2945	3178
85°	1127	2586	2519



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	224.9	3.3
10°-20°	642.5	9.5
20°-30°	965.8	14.3
30°-40°	1150.5	17.0
40°-50°	1177.5	17.4
50°-60°	1060.0	15.7
60°-70°	832.5	12.3
70°-80°	540.3	8.0
80°-90°	167.1	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°	1833.2	27.1
0°-40°	2983.7	44.1
0°-60°	5221.2	77.2
0°-90°	6761.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6761.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2375	2375	2375	2375	2375	
5°	2364	2369	2358	2371	2373	225
15°	2261	2268	2272	2291	2296	638
25°	2055	2072	2094	2128	2135	947
35°	1776	1798	1840	1886	1898	1108
45°	1432	1467	1531	1589	1602	1104
55°	1067	1115	1196	1258	1271	957
65°	702	756	853	923	941	699
75°	356	425	535	608	625	377
85°	73	135	168	163	163	88
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2375.2	2375.2	2375.2	2375.2	2375.2
2.5°	2377.3	2377.3	2366.6	2377.3	2379.5
5°	2364.4	2368.7	2358.0	2370.9	2373.0
7.5°	2351.6	2351.6	2345.1	2358.0	2360.2
10°	2327.9	2330.1	2327.9	2343.0	2345.1
12.5°	2297.9	2302.2	2304.3	2319.3	2321.5
15°	2261.4	2267.8	2272.1	2291.4	2295.7
17.5°	2220.6	2227.0	2237.7	2259.2	2263.5
20°	2171.2	2179.8	2192.6	2220.6	2227.0
22.5°	2117.5	2126.1	2147.5	2173.3	2184.1
25°	2055.2	2072.4	2093.9	2128.2	2134.7
27.5°	1992.9	2008.0	2035.9	2072.4	2081.0
30°	1919.9	1943.5	1977.9	2014.4	2023.0
32.5°	1849.0	1872.7	1913.5	1952.1	1962.9
35°	1776.0	1797.5	1840.4	1885.5	1898.4
37.5°	1692.3	1720.2	1767.4	1812.5	1825.4
40°	1604.2	1638.6	1692.3	1739.5	1754.5
42.5°	1520.5	1557.0	1610.7	1662.2	1679.4
45°	1432.4	1466.8	1531.2	1589.2	1602.1
47.5°	1342.2	1380.9	1449.6	1507.6	1529.1
50°	1252.0	1292.8	1365.8	1426.0	1438.9
52.5°	1161.8	1204.8	1282.1	1346.5	1353.0
55°	1067.3	1114.6	1196.2	1258.5	1271.3
57.5°	981.4	1022.2	1110.3	1174.7	1189.7
60°	886.9	932.0	1026.5	1086.7	1106.0
62.5°	796.7	844.0	942.8	1002.9	1020.1
65°	702.2	755.9	852.6	923.4	940.6
67.5°	620.6	672.2	775.3	844.0	861.2
70°	526.1	584.1	693.7	764.5	781.7
72.5°	444.5	504.7	614.2	682.9	708.7
75°	356.5	425.2	534.7	607.8	624.9
77.5°	270.6	350.0	461.7	517.6	517.6
80°	193.3	277.0	380.1	405.9	410.2
82.5°	126.7	208.3	281.3	279.2	279.2
85°	73.0	135.3	167.5	163.2	163.2
87.5°	27.9	55.8	60.1	60.1	58.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)