

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: P314490

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CA08-W2A-U-3000K**

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: P314490  
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-L83050-S-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 3000K 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

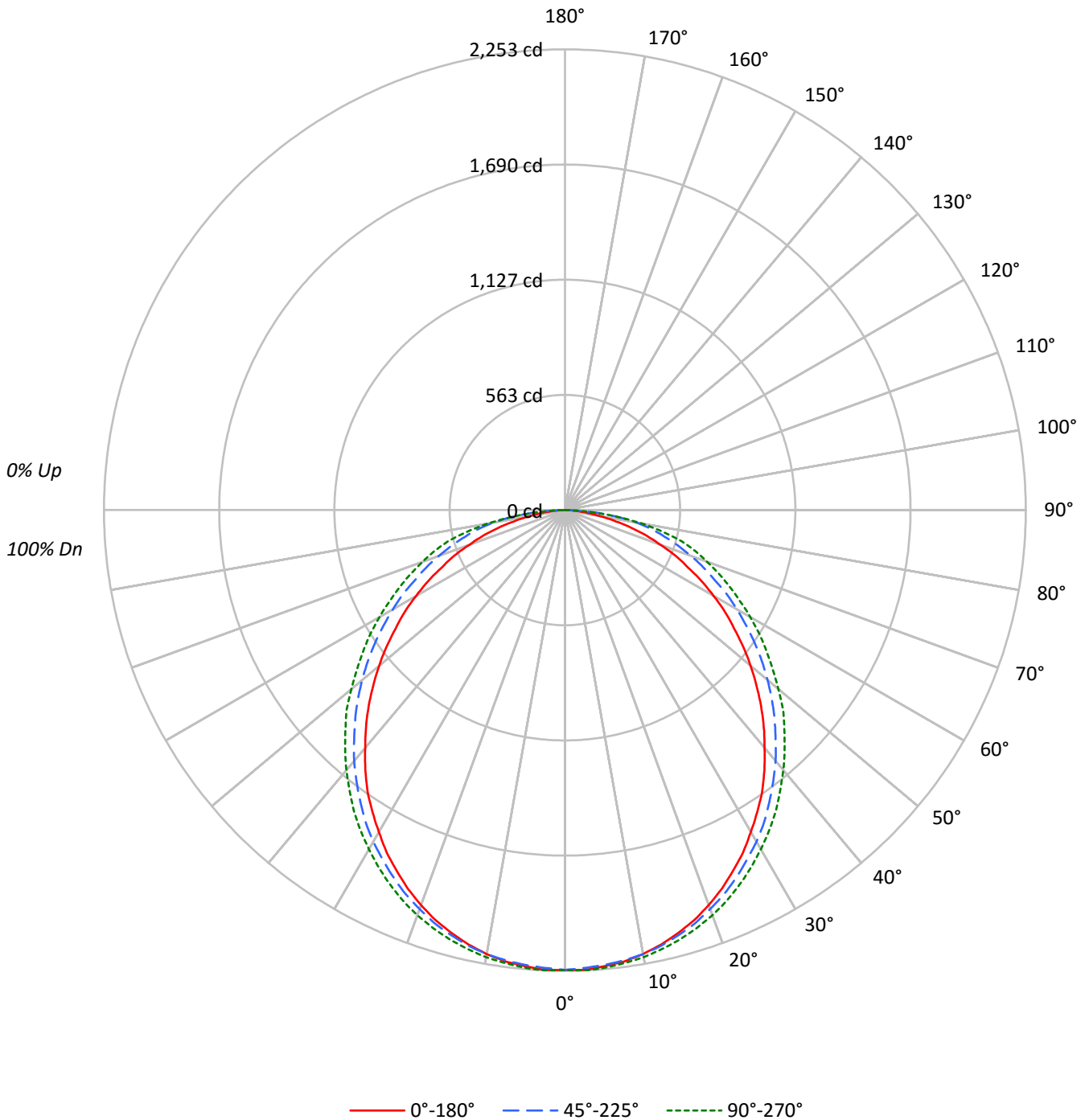
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6401.0 lumens  
Efficiency: N/A  
Efficacy: 111.1 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): 57.6  
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°	3026	3026	3026
5°	3023	3015	3034
10°	3011	3011	3033
15°	2982	2996	3028
20°	2943	2972	3019
25°	2889	2943	3000
30°	2824	2909	2976
35°	2762	2862	2952
40°	2668	2814	2918
45°	2580	2759	2886
50°	2481	2707	2851
55°	2370	2657	2824
60°	2260	2615	2818
65°	2117	2570	2835
70°	1959	2583	2912
75°	1755	2632	3076
80°	1418	2789	3009
85°	1067	2448	2385



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	212.9	3.3
10°-20°	608.3	9.5
20°-30°	914.4	14.3
30°-40°	1089.2	17.0
40°-50°	1114.7	17.4
50°-60°	1003.6	15.7
60°-70°	788.1	12.3
70°-80°	511.5	8.0
80°-90°	158.2	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°	1735.6	27.1
0°-40°	2824.8	44.1
0°-60°	4943.1	77.2
0°-90°	6401.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6401.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2249	2249	2249	2249	2249	
5°	2238	2243	2232	2245	2247	213
15°	2141	2147	2151	2169	2174	604
25°	1946	1962	1982	2015	2021	896
35°	1682	1702	1742	1785	1797	1049
45°	1356	1389	1450	1505	1517	1046
55°	1010	1055	1132	1192	1204	906
65°	665	716	807	874	890	662
75°	338	403	506	575	592	357
85°	69	128	159	154	154	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2248.7	2248.7	2248.7	2248.7	2248.7
2.5°	2250.7	2250.7	2240.6	2250.7	2252.8
5°	2238.5	2242.6	2232.4	2244.6	2246.7
7.5°	2226.3	2226.3	2220.2	2232.4	2234.5
10°	2204.0	2206.0	2204.0	2218.2	2220.2
12.5°	2175.5	2179.6	2181.6	2195.9	2197.9
15°	2141.0	2147.1	2151.1	2169.4	2173.5
17.5°	2102.3	2108.4	2118.6	2138.9	2143.0
20°	2055.6	2063.7	2075.9	2102.3	2108.4
22.5°	2004.7	2012.9	2033.2	2057.6	2067.8
25°	1945.8	1962.0	1982.4	2014.9	2021.0
27.5°	1886.8	1901.0	1927.5	1962.0	1970.2
30°	1817.7	1840.0	1872.6	1907.1	1915.3
32.5°	1750.6	1772.9	1811.6	1848.2	1858.3
35°	1681.5	1701.8	1742.4	1785.1	1797.3
37.5°	1602.2	1628.6	1673.3	1716.0	1728.2
40°	1518.8	1551.3	1602.2	1646.9	1661.1
42.5°	1439.5	1474.1	1524.9	1573.7	1590.0
45°	1356.1	1388.7	1449.7	1504.6	1516.8
47.5°	1270.7	1307.3	1372.4	1427.3	1447.6
50°	1185.4	1224.0	1293.1	1350.0	1362.2
52.5°	1100.0	1140.6	1213.8	1274.8	1280.9
55°	1010.5	1055.2	1132.5	1191.5	1203.7
57.5°	929.2	967.8	1051.2	1112.2	1126.4
60°	839.7	882.4	971.9	1028.8	1047.1
62.5°	754.3	799.0	892.6	949.5	965.8
65°	664.9	715.7	807.2	874.3	890.5
67.5°	587.6	636.4	734.0	799.0	815.3
70°	498.1	553.0	656.7	723.8	740.1
72.5°	420.9	477.8	581.5	646.6	671.0
75°	337.5	402.6	506.3	575.4	591.7
77.5°	256.2	331.4	437.1	490.0	490.0
80°	183.0	262.3	359.9	384.3	388.3
82.5°	120.0	197.2	266.3	264.3	264.3
85°	69.1	128.1	158.6	154.5	154.5
87.5°	26.4	52.9	56.9	56.9	54.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)