

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: P311751

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P311751  
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-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**

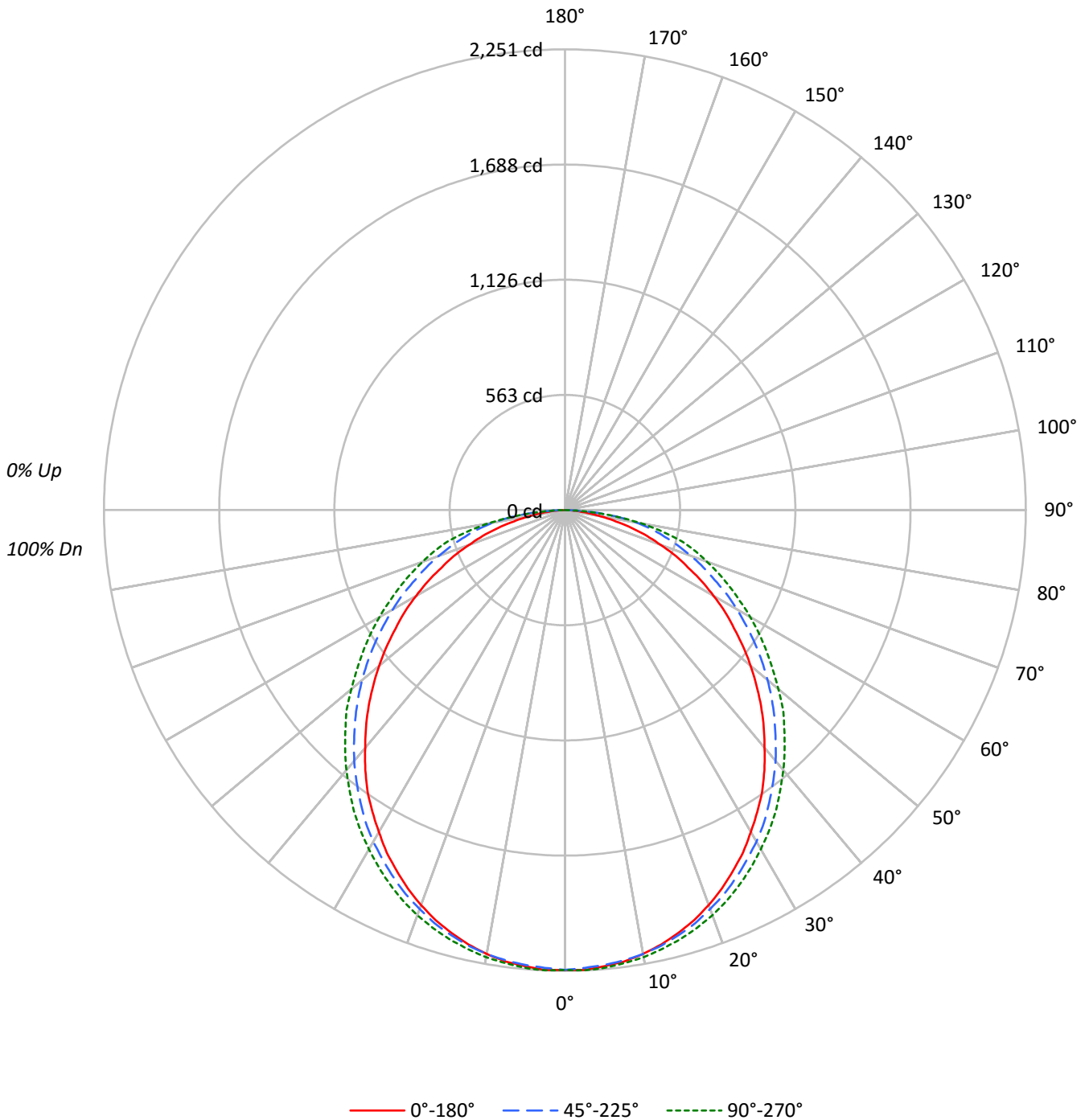
Lumens per Lamp: N/A  
Luminaire Lumens: 6395.0 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 57.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	3023	3023	3023
5°	3021	3012	3032
10°	3008	3008	3031
15°	2979	2994	3025
20°	2940	2969	3016
25°	2886	2940	2998
30°	2821	2907	2973
35°	2759	2859	2950
40°	2665	2811	2915
45°	2578	2756	2883
50°	2479	2704	2849
55°	2368	2654	2821
60°	2257	2613	2815
65°	2115	2567	2833
70°	1958	2581	2909
75°	1753	2629	3073
80°	1416	2786	3006
85°	1067	2445	2384



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	212.7	3.3
10°-20°	607.7	9.5
20°-30°	913.5	14.3
30°-40°	1088.2	17.0
40°-50°	1113.7	17.4
50°-60°	1002.7	15.7
60°-70°	787.4	12.3
70°-80°	511.0	8.0
80°-90°	158.1	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°	1734.0	27.1
0°-40°	2822.1	44.1
0°-60°	4938.5	77.2
0°-90°	6395.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6395.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2247	2247	2247	2247	2247	
5°	2236	2240	2230	2242	2245	213
15°	2139	2145	2149	2167	2171	603
25°	1944	1960	1980	2013	2019	896
35°	1680	1700	1741	1784	1796	1048
45°	1355	1387	1448	1503	1515	1045
55°	1010	1054	1131	1190	1202	905
65°	664	715	806	874	890	661
75°	337	402	506	575	591	357
85°	69	128	158	154	154	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2246.6	2246.6	2246.6	2246.6	2246.6
2.5°	2248.6	2248.6	2238.5	2248.6	2250.7
5°	2236.4	2240.5	2230.4	2242.5	2244.6
7.5°	2224.3	2224.3	2218.2	2230.4	2232.4
10°	2201.9	2203.9	2201.9	2216.1	2218.2
12.5°	2173.5	2177.5	2179.6	2193.8	2195.8
15°	2138.9	2145.0	2149.1	2167.4	2171.4
17.5°	2100.4	2106.4	2116.6	2136.9	2141.0
20°	2053.6	2061.8	2073.9	2100.4	2106.4
22.5°	2002.9	2011.0	2031.3	2055.7	2065.8
25°	1943.9	1960.2	1980.5	2013.0	2019.1
27.5°	1885.0	1899.3	1925.7	1960.2	1968.3
30°	1816.0	1838.3	1870.8	1905.3	1913.5
32.5°	1748.9	1771.3	1809.9	1846.4	1856.6
35°	1679.9	1700.2	1740.8	1783.5	1795.7
37.5°	1600.7	1627.1	1671.8	1714.4	1726.6
40°	1517.4	1549.9	1600.7	1645.3	1659.6
42.5°	1438.2	1472.7	1523.5	1572.2	1588.5
45°	1354.9	1387.4	1448.3	1503.2	1515.3
47.5°	1269.6	1306.1	1371.1	1426.0	1446.3
50°	1184.2	1222.8	1291.9	1348.8	1361.0
52.5°	1098.9	1139.6	1212.7	1273.6	1279.7
55°	1009.6	1054.2	1131.4	1190.3	1202.5
57.5°	928.3	966.9	1050.2	1111.1	1125.3
60°	838.9	881.6	971.0	1027.8	1046.1
62.5°	753.6	798.3	891.7	948.6	964.9
65°	664.2	715.0	806.4	873.5	889.7
67.5°	587.0	635.8	733.3	798.3	814.5
70°	497.7	552.5	656.1	723.1	739.4
72.5°	420.5	477.4	580.9	645.9	670.3
75°	337.2	402.2	505.8	574.9	591.1
77.5°	255.9	331.1	436.7	489.5	489.5
80°	182.8	262.0	359.5	383.9	388.0
82.5°	119.8	197.0	266.1	264.1	264.1
85°	69.1	128.0	158.4	154.4	154.4
87.5°	26.4	52.8	56.9	56.9	54.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)