

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: P311083

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA08-W2A-U-6500K**

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: P311083  
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: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-6500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 6500K 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**

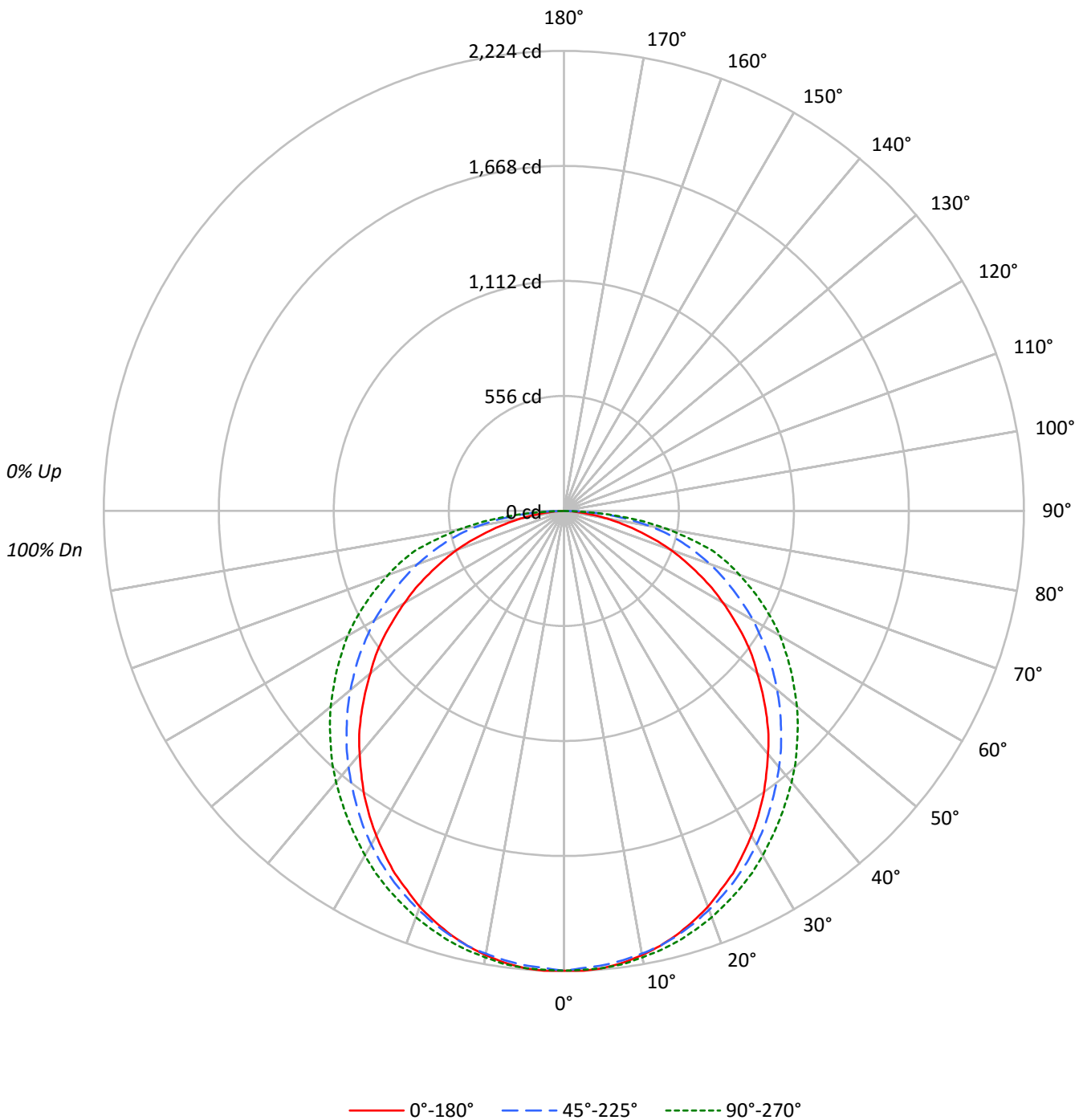
Lumens per Lamp: N/A  
Luminaire Lumens: 6738.0 lumens  
Efficiency: N/A  
Efficacy: 111.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 60.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	2990	2990	2990
5°	2995	2977	2995
10°	2978	2969	2993
15°	2952	2958	2996
20°	2916	2938	2993
25°	2871	2917	2990
30°	2817	2893	2987
35°	2761	2864	2989
40°	2697	2843	3008
45°	2633	2825	3033
50°	2555	2817	3079
55°	2491	2821	3141
60°	2394	2845	3249
65°	2285	2876	3366
70°	2163	2964	3553
75°	1929	3092	3882
80°	1646	3274	3966
85°	1173	3243	3796



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	210.3	3.1
10°-20°	601.3	8.9
20°-30°	908.2	13.5
30°-40°	1094.6	16.2
40°-50°	1149.2	17.1
50°-60°	1075.1	16.0
60°-70°	887.9	13.2
70°-80°	605.0	9.0
80°-90°	206.3	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°	1719.9	25.5
0°-40°	2814.5	41.8
0°-60°	5038.8	74.8
0°-90°	6738.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6738.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2222	2222	2222	2222	2222	
5°	2218	2215	2204	2218	2218	210
15°	2119	2122	2124	2146	2151	597
25°	1934	1943	1965	2003	2014	890
35°	1681	1699	1744	1802	1820	1051
45°	1384	1413	1484	1565	1594	1067
55°	1062	1104	1203	1301	1339	948
65°	718	778	903	1017	1057	712
75°	371	456	595	706	747	396
85°	76	150	210	237	246	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2222.1	2222.1	2222.1	2222.1	2222.1
2.5°	2224.4	2222.1	2211.0	2222.1	2219.9
5°	2217.7	2215.4	2204.2	2217.7	2217.7
7.5°	2202.0	2202.0	2190.8	2206.5	2208.7
10°	2179.7	2179.7	2173.0	2190.8	2190.8
12.5°	2152.8	2152.8	2152.8	2170.7	2173.0
15°	2119.3	2121.5	2123.8	2146.1	2150.6
17.5°	2079.1	2083.5	2090.2	2117.1	2121.5
20°	2036.6	2041.1	2052.2	2083.5	2090.2
22.5°	1982.9	1994.1	2009.8	2045.5	2052.2
25°	1933.7	1942.7	1965.0	2003.1	2014.2
27.5°	1873.4	1886.8	1915.9	1956.1	1971.8
30°	1813.0	1826.4	1862.2	1909.2	1922.6
32.5°	1748.2	1768.3	1806.3	1855.5	1871.2
35°	1681.1	1699.0	1743.7	1801.9	1819.7
37.5°	1607.4	1631.9	1681.1	1743.7	1766.1
40°	1535.8	1562.6	1618.5	1685.6	1712.4
42.5°	1464.3	1491.1	1553.7	1629.7	1656.5
45°	1383.8	1412.9	1484.4	1564.9	1593.9
47.5°	1303.3	1339.1	1417.3	1502.3	1533.6
50°	1220.6	1260.8	1345.8	1435.2	1471.0
52.5°	1146.8	1184.8	1274.3	1370.4	1403.9
55°	1061.9	1104.4	1202.7	1301.1	1339.1
57.5°	974.7	1021.6	1126.7	1234.0	1272.0
60°	889.7	941.2	1057.4	1164.7	1207.2
62.5°	807.0	858.5	979.2	1090.9	1133.4
65°	717.6	778.0	903.2	1017.2	1057.4
67.5°	632.7	697.5	829.4	941.2	981.4
70°	549.9	612.5	753.4	862.9	903.2
72.5°	460.5	532.1	672.9	786.9	829.4
75°	371.1	456.1	594.7	706.4	746.7
77.5°	288.4	375.6	514.2	605.8	626.0
80°	212.4	301.8	422.5	487.3	511.9
82.5°	136.4	225.8	321.9	368.9	389.0
85°	76.0	149.8	210.1	237.0	245.9
87.5°	31.3	64.8	85.0	96.1	96.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)