

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: P314494

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CA08-W2A-U-5000K**

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: P314494  
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-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5000K 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: 7180.0 lumens  
Efficiency: N/A  
Efficacy: 118.7 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

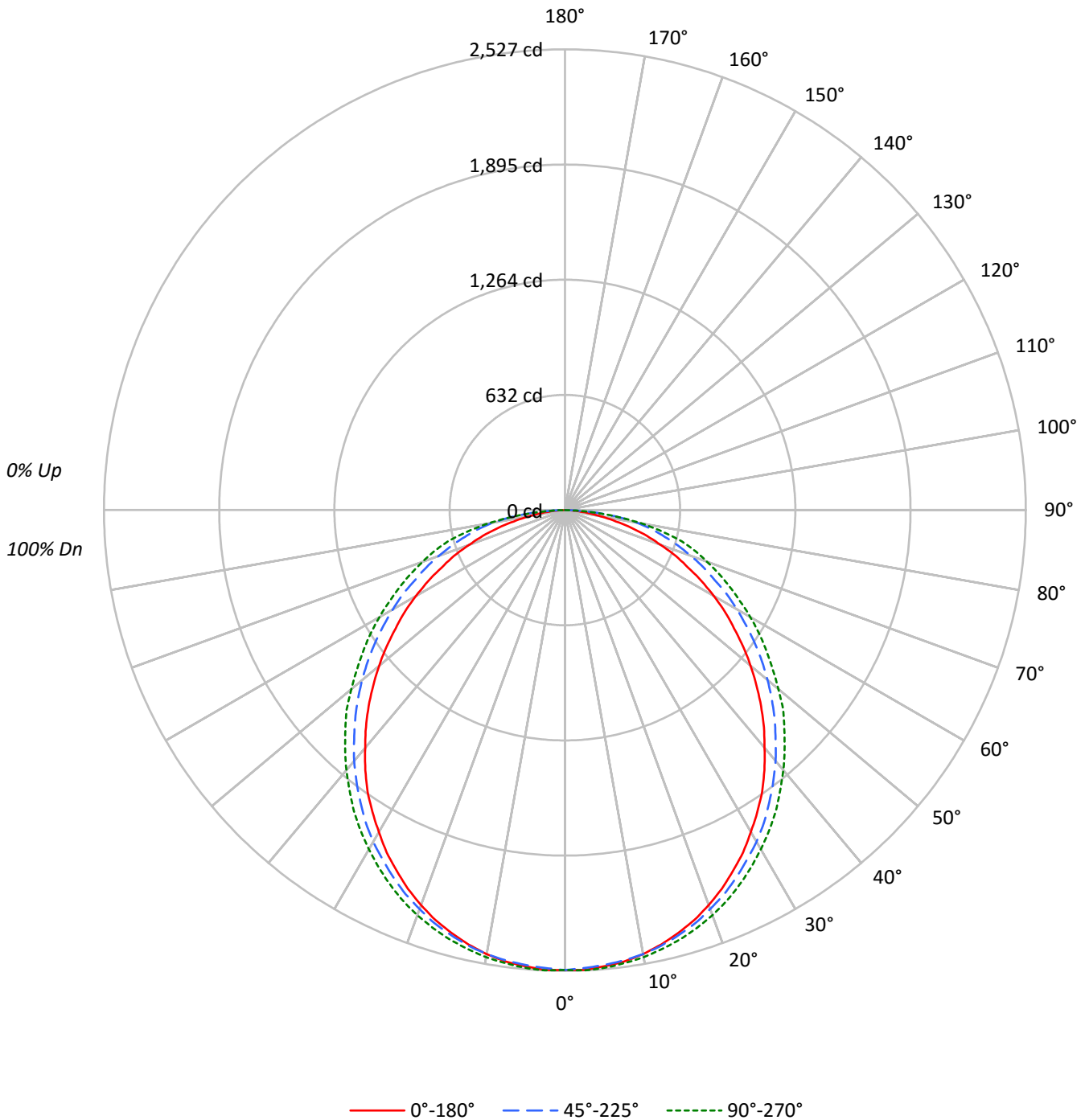
Input Watts (W): 60.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3394	3394	3394
5°	3391	3382	3404
10°	3378	3378	3403
15°	3345	3361	3396
20°	3301	3334	3386
25°	3240	3301	3365
30°	3168	3263	3338
35°	3098	3210	3312
40°	2992	3156	3273
45°	2895	3094	3237
50°	2783	3036	3198
55°	2659	2980	3167
60°	2535	2933	3161
65°	2374	2883	3180
70°	2198	2898	3266
75°	1968	2952	3450
80°	1591	3128	3375
85°	1196	2746	2675



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	238.8	3.3
10°-20°	682.3	9.5
20°-30°	1025.7	14.3
30°-40°	1221.8	17.0
40°-50°	1250.4	17.4
50°-60°	1125.7	15.7
60°-70°	884.1	12.3
70°-80°	573.8	8.0
80°-90°	177.5	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°	1946.8	27.1
0°-40°	3168.6	44.1
0°-60°	5544.7	77.2
0°-90°	7180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7180.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2522	2522	2522	2522	2522	
5°	2511	2516	2504	2518	2520	239
15°	2402	2408	2413	2433	2438	677
25°	2183	2201	2224	2260	2267	1005
35°	1886	1909	1954	2002	2016	1177
45°	1521	1558	1626	1688	1701	1173
55°	1134	1184	1270	1336	1350	1016
65°	746	803	905	981	999	742
75°	379	452	568	645	664	401
85°	78	144	178	173	173	94
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2522.4	2522.4	2522.4	2522.4	2522.4
2.5°	2524.7	2524.7	2513.3	2524.7	2526.9
5°	2511.0	2515.5	2504.1	2517.8	2520.1
7.5°	2497.3	2497.3	2490.5	2504.1	2506.4
10°	2472.2	2474.5	2472.2	2488.2	2490.5
12.5°	2440.3	2444.8	2447.1	2463.1	2465.4
15°	2401.5	2408.3	2412.9	2433.4	2438.0
17.5°	2358.2	2365.0	2376.4	2399.2	2403.8
20°	2305.7	2314.8	2328.5	2358.2	2365.0
22.5°	2248.7	2257.8	2280.6	2308.0	2319.4
25°	2182.6	2200.8	2223.6	2260.1	2266.9
27.5°	2116.4	2132.4	2162.0	2200.8	2209.9
30°	2038.9	2064.0	2100.5	2139.2	2148.4
32.5°	1963.6	1988.7	2032.0	2073.1	2084.5
35°	1886.1	1908.9	1954.5	2002.4	2016.1
37.5°	1797.1	1826.8	1877.0	1924.9	1938.5
40°	1703.6	1740.1	1797.1	1847.3	1863.3
42.5°	1614.7	1653.5	1710.5	1765.2	1783.5
45°	1521.2	1557.7	1626.1	1687.7	1701.4
47.5°	1425.4	1466.4	1539.4	1601.0	1623.8
50°	1329.6	1372.9	1450.5	1514.3	1528.0
52.5°	1233.8	1279.4	1361.5	1430.0	1436.8
55°	1133.5	1183.6	1270.3	1336.5	1350.1
57.5°	1042.2	1085.6	1179.1	1247.5	1263.5
60°	941.9	989.8	1090.1	1154.0	1174.5
62.5°	846.1	896.3	1001.2	1065.1	1083.3
65°	745.8	802.8	905.4	980.7	998.9
67.5°	659.1	713.8	823.3	896.3	914.5
70°	558.8	620.3	736.6	811.9	830.2
72.5°	472.1	535.9	652.3	725.2	752.6
75°	378.6	451.6	567.9	645.4	663.7
77.5°	287.4	371.7	490.3	549.6	549.6
80°	205.3	294.2	403.7	431.0	435.6
82.5°	134.6	221.2	298.8	296.5	296.5
85°	77.5	143.7	177.9	173.3	173.3
87.5°	29.6	59.3	63.9	63.9	61.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)