

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: P311752

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CA08-W2A-U-3500K**

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: P311752
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 6616.0 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

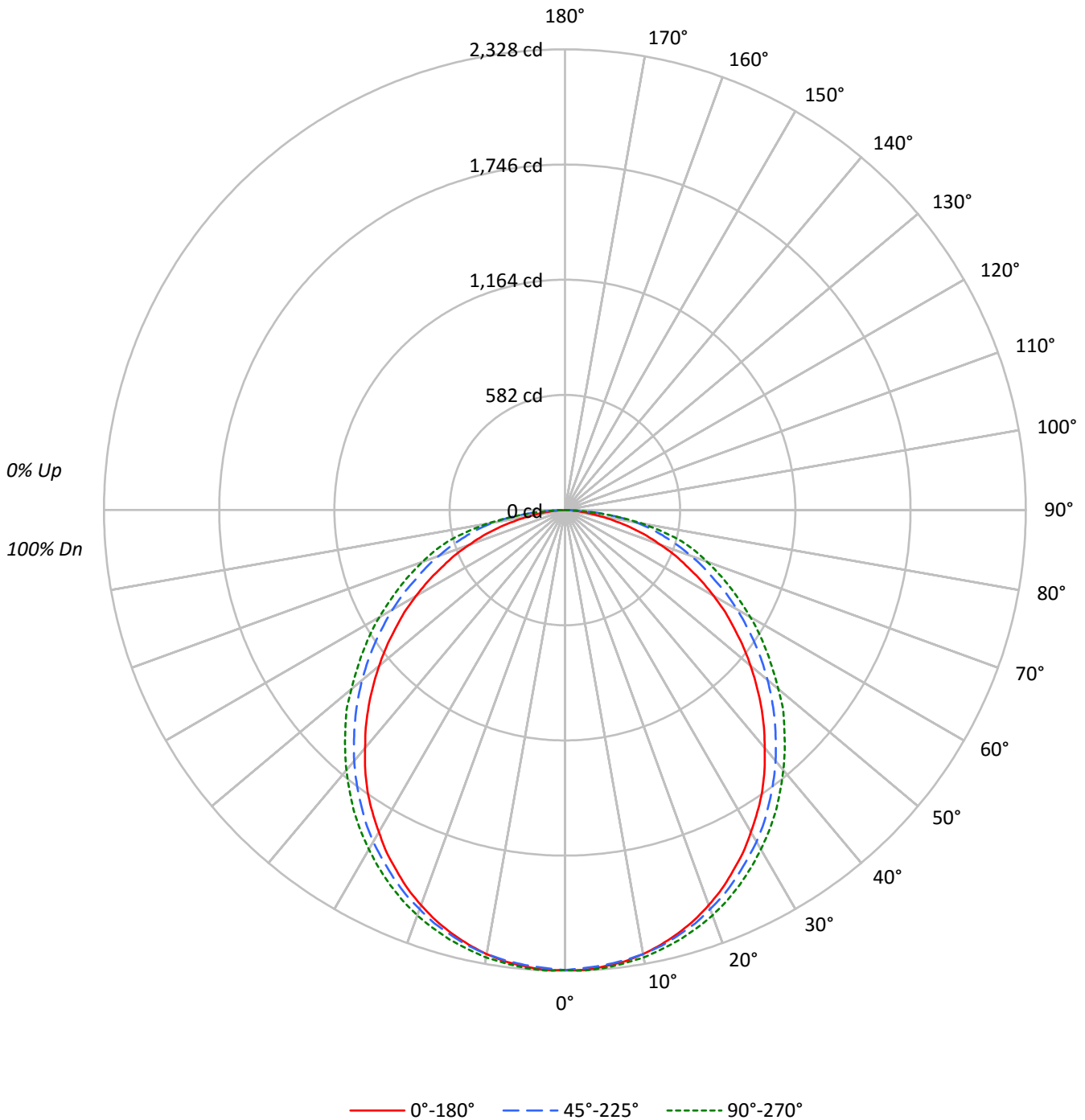
Input Watts (W): 58
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3127	3127	3127
5°	3125	3116	3136
10°	3112	3112	3135
15°	3082	3097	3129
20°	3042	3072	3120
25°	2986	3042	3101
30°	2919	3007	3076
35°	2855	2958	3051
40°	2757	2909	3016
45°	2667	2851	2983
50°	2565	2798	2947
55°	2450	2746	2918
60°	2336	2703	2912
65°	2188	2656	2931
70°	2026	2670	3009
75°	1813	2720	3179
80°	1465	2882	3110
85°	1104	2530	2465



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.0	3.3
10°-20°	628.7	9.5
20°-30°	945.1	14.3
30°-40°	1125.8	17.0
40°-50°	1152.2	17.4
50°-60°	1037.3	15.7
60°-70°	814.6	12.3
70°-80°	528.7	8.0
80°-90°	163.5	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°	1793.9	27.1
0°-40°	2919.7	44.1
0°-60°	5109.2	77.2
0°-90°	6616.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6616.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2324	2324	2324	2324	2324	
5°	2314	2318	2307	2320	2322	220
15°	2213	2219	2223	2242	2246	624
25°	2011	2028	2049	2083	2089	926
35°	1738	1759	1801	1845	1858	1084
45°	1402	1435	1498	1555	1568	1081
55°	1044	1091	1170	1232	1244	936
65°	687	740	834	904	920	684
75°	349	416	523	595	612	369
85°	72	132	164	160	160	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2324.2	2324.2	2324.2	2324.2	2324.2
2.5°	2326.3	2326.3	2315.8	2326.3	2328.4
5°	2313.7	2317.9	2307.4	2320.0	2322.1
7.5°	2301.1	2301.1	2294.8	2307.4	2309.5
10°	2278.0	2280.1	2278.0	2292.7	2294.8
12.5°	2248.6	2252.8	2254.9	2269.6	2271.7
15°	2212.9	2219.2	2223.4	2242.3	2246.5
17.5°	2172.9	2179.2	2189.7	2210.8	2215.0
20°	2124.6	2133.0	2145.6	2172.9	2179.2
22.5°	2072.1	2080.5	2101.5	2126.7	2137.2
25°	2011.1	2027.9	2048.9	2082.6	2088.9
27.5°	1950.2	1964.9	1992.2	2027.9	2036.3
30°	1878.7	1901.8	1935.5	1971.2	1979.6
32.5°	1809.4	1832.5	1872.4	1910.3	1920.8
35°	1737.9	1758.9	1801.0	1845.1	1857.7
37.5°	1656.0	1683.3	1729.5	1773.7	1786.3
40°	1569.8	1603.4	1656.0	1702.2	1716.9
42.5°	1487.9	1523.6	1576.1	1626.6	1643.4
45°	1401.7	1435.3	1498.4	1555.1	1567.7
47.5°	1313.4	1351.3	1418.5	1475.2	1496.3
50°	1225.2	1265.1	1336.5	1395.4	1408.0
52.5°	1136.9	1178.9	1254.6	1317.6	1323.9
55°	1044.4	1090.7	1170.5	1231.5	1244.1
57.5°	960.4	1000.3	1086.5	1149.5	1164.2
60°	867.9	912.0	1004.5	1063.4	1082.3
62.5°	779.7	825.9	922.6	981.4	998.2
65°	687.2	739.7	834.3	903.6	920.5
67.5°	607.3	657.8	758.6	825.9	842.7
70°	514.9	571.6	678.8	748.1	764.9
72.5°	435.0	493.8	601.0	668.3	693.5
75°	348.8	416.1	523.3	594.7	611.5
77.5°	264.8	342.5	451.8	506.5	506.5
80°	189.1	271.1	372.0	397.2	401.4
82.5°	124.0	203.8	275.3	273.2	273.2
85°	71.5	132.4	163.9	159.7	159.7
87.5°	27.3	54.6	58.8	58.8	56.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)