

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: P311100

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP125-W2A-U-5700K**

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: P311100
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-CP125-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET
Light Source: (336) 5700K 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: 6567.0 lumens
Efficiency: N/A
Efficacy: 110.7 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

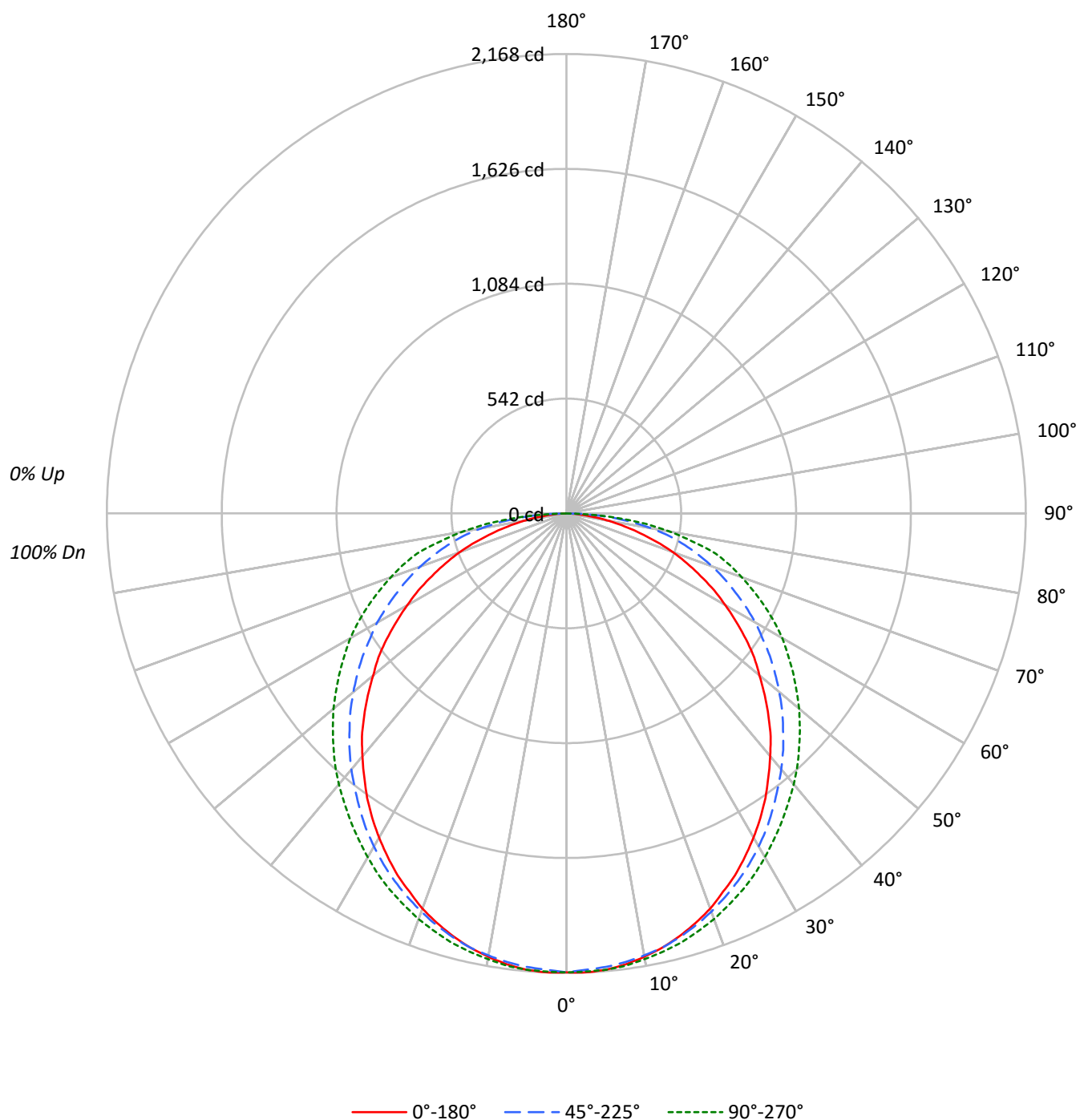
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311100

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CP125-W2A-U-5700K

Luminous Intensity Polar Plot





TEST NUMBER: P311100

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CP125-W2A-U-5700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2914	2914	2914
5°	2919	2902	2919
10°	2902	2893	2917
15°	2877	2883	2920
20°	2842	2864	2917
25°	2798	2843	2914
30°	2745	2820	2911
35°	2691	2791	2913
40°	2629	2771	2931
45°	2566	2753	2956
50°	2490	2745	3001
55°	2428	2750	3061
60°	2334	2773	3166
65°	2227	2802	3281
70°	2109	2889	3463
75°	1880	3013	3783
80°	1604	3191	3866
85°	1144	3162	3700



TEST NUMBER: P311100

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CP125-W2A-U-5700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.0	3.1
10°-20°	586.1	8.9
20°-30°	885.2	13.5
30°-40°	1066.9	16.2
40°-50°	1120.0	17.1
50°-60°	1047.8	16.0
60°-70°	865.3	13.2
70°-80°	589.6	9.0
80°-90°	201.1	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°	1676.2	25.5
0°-40°	2743.1	41.8
0°-60°	4910.9	74.8
0°-90°	6567.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6567.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2166	2166	2166	2166	2166	
5°	2161	2159	2148	2161	2161	205
15°	2066	2068	2070	2092	2096	582
25°	1885	1893	1915	1952	1963	867
35°	1638	1656	1700	1756	1774	1024
45°	1349	1377	1447	1525	1554	1040
55°	1035	1076	1172	1268	1305	924
65°	699	758	880	991	1031	694
75°	362	444	580	688	728	386
85°	74	146	205	231	240	93
90°	0	0	0	0	0	



TEST NUMBER: P311100

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CP125-W2A-U-5700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2165.7	2165.7	2165.7	2165.7	2165.7
2.5°	2167.9	2165.7	2154.8	2165.7	2163.6
5°	2161.4	2159.2	2148.3	2161.4	2161.4
7.5°	2146.1	2146.1	2135.2	2150.5	2152.7
10°	2124.3	2124.3	2117.8	2135.2	2135.2
12.5°	2098.2	2098.2	2098.2	2115.6	2117.8
15°	2065.5	2067.7	2069.9	2091.7	2096.0
17.5°	2026.3	2030.7	2037.2	2063.3	2067.7
20°	1984.9	1989.3	2000.1	2030.7	2037.2
22.5°	1932.6	1943.5	1958.8	1993.6	2000.1
25°	1884.7	1893.4	1915.2	1952.2	1963.1
27.5°	1825.8	1838.9	1867.2	1906.5	1921.7
30°	1767.0	1780.1	1815.0	1860.7	1873.8
32.5°	1703.8	1723.4	1760.5	1808.4	1823.7
35°	1638.5	1655.9	1699.5	1756.1	1773.6
37.5°	1566.6	1590.5	1638.5	1699.5	1721.3
40°	1496.8	1523.0	1577.5	1642.8	1669.0
42.5°	1427.1	1453.3	1514.3	1588.4	1614.5
45°	1348.7	1377.0	1446.7	1525.2	1553.5
47.5°	1270.2	1305.1	1381.4	1464.2	1494.7
50°	1189.6	1228.9	1311.6	1398.8	1433.7
52.5°	1117.7	1154.8	1241.9	1335.6	1368.3
55°	1034.9	1076.3	1172.2	1268.1	1305.1
57.5°	950.0	995.7	1098.1	1202.7	1239.7
60°	867.2	917.3	1030.6	1135.2	1176.6
62.5°	786.6	836.7	954.3	1063.3	1104.7
65°	699.4	758.2	880.2	991.4	1030.6
67.5°	616.6	679.8	808.3	917.3	956.5
70°	536.0	597.0	734.3	841.0	880.2
72.5°	448.8	518.6	655.8	766.9	808.3
75°	361.7	444.5	579.6	688.5	727.7
77.5°	281.1	366.0	501.1	590.5	610.1
80°	207.0	294.1	411.8	475.0	498.9
82.5°	132.9	220.1	313.7	359.5	379.1
85°	74.1	146.0	204.8	231.0	239.7
87.5°	30.5	63.2	82.8	93.7	93.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)