

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: P311094

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP125-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: P311094
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-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB 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: 5947.0 lumens
Efficiency: N/A
Efficacy: 103.8 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

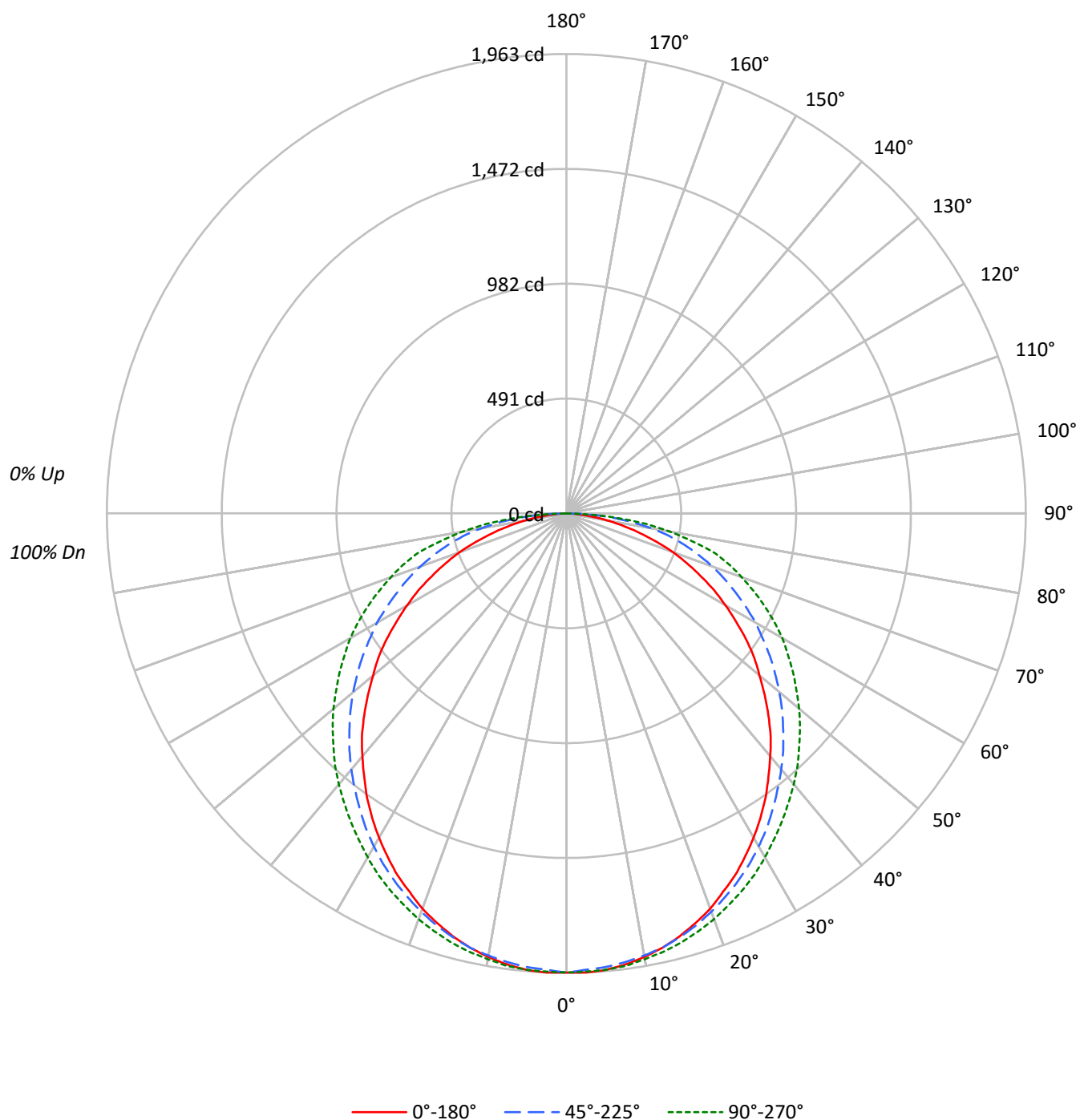
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2639	2639	2639
5°	2644	2628	2644
10°	2628	2620	2642
15°	2606	2611	2644
20°	2574	2593	2642
25°	2534	2575	2639
30°	2486	2554	2636
35°	2437	2528	2638
40°	2381	2509	2655
45°	2324	2493	2677
50°	2255	2486	2718
55°	2198	2490	2772
60°	2113	2511	2867
65°	2017	2538	2971
70°	1910	2616	3136
75°	1703	2728	3426
80°	1452	2889	3501
85°	1036	2864	3350



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.6	3.1
10°-20°	530.7	8.9
20°-30°	801.6	13.5
30°-40°	966.1	16.2
40°-50°	1014.3	17.1
50°-60°	948.9	16.0
60°-70°	783.6	13.2
70°-80°	534.0	9.0
80°-90°	182.1	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°	1518.0	25.5
0°-40°	2484.1	41.8
0°-60°	4447.3	74.8
0°-90°	5947.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5947.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1961	1961	1961	1961	1961	
5°	1957	1955	1946	1957	1957	186
15°	1870	1872	1874	1894	1898	527
25°	1707	1715	1734	1768	1778	785
35°	1484	1500	1539	1590	1606	927
45°	1221	1247	1310	1381	1407	942
55°	937	975	1062	1148	1182	837
65°	633	687	797	898	933	628
75°	328	402	525	624	659	349
85°	67	132	186	209	217	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1961.3	1961.3	1961.3	1961.3	1961.3
2.5°	1963.2	1961.3	1951.4	1961.3	1959.3
5°	1957.3	1955.3	1945.5	1957.3	1957.3
7.5°	1943.5	1943.5	1933.6	1947.5	1949.4
10°	1923.8	1923.8	1917.9	1933.6	1933.6
12.5°	1900.1	1900.1	1900.1	1915.9	1917.9
15°	1870.5	1872.5	1874.5	1894.2	1898.1
17.5°	1835.0	1838.9	1844.9	1868.5	1872.5
20°	1797.5	1801.4	1811.3	1838.9	1844.9
22.5°	1750.1	1760.0	1773.8	1805.4	1811.3
25°	1706.7	1714.6	1734.4	1767.9	1777.8
27.5°	1653.5	1665.3	1691.0	1726.5	1740.3
30°	1600.2	1612.0	1643.6	1685.0	1696.9
32.5°	1543.0	1560.7	1594.3	1637.7	1651.5
35°	1483.8	1499.6	1539.0	1590.3	1606.1
37.5°	1418.7	1440.4	1483.8	1539.0	1558.8
40°	1355.5	1379.2	1428.5	1487.7	1511.4
42.5°	1292.4	1316.1	1371.3	1438.4	1462.1
45°	1221.4	1247.0	1310.1	1381.2	1406.8
47.5°	1150.3	1181.9	1251.0	1325.9	1353.6
50°	1077.3	1112.8	1187.8	1266.7	1298.3
52.5°	1012.2	1045.7	1124.7	1209.5	1239.1
55°	937.2	974.7	1061.5	1148.3	1181.9
57.5°	860.3	901.7	994.4	1089.2	1122.7
60°	785.3	830.7	933.3	1028.0	1065.5
62.5°	712.3	757.7	864.2	962.9	1000.4
65°	633.4	686.6	797.1	897.8	933.3
67.5°	558.4	615.6	732.0	830.7	866.2
70°	485.4	540.6	664.9	761.6	797.1
72.5°	406.5	469.6	593.9	694.5	732.0
75°	327.5	402.5	524.8	623.5	659.0
77.5°	254.5	331.5	453.8	534.7	552.5
80°	187.4	266.4	372.9	430.1	451.8
82.5°	120.4	199.3	284.1	325.6	343.3
85°	67.1	132.2	185.5	209.1	217.0
87.5°	27.6	57.2	75.0	84.8	84.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)