

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: P311786

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-W2A-U-2700K**

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: P311786
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-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 2700K 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: 5768.0 lumens
Efficiency: N/A
Efficacy: 100.0 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

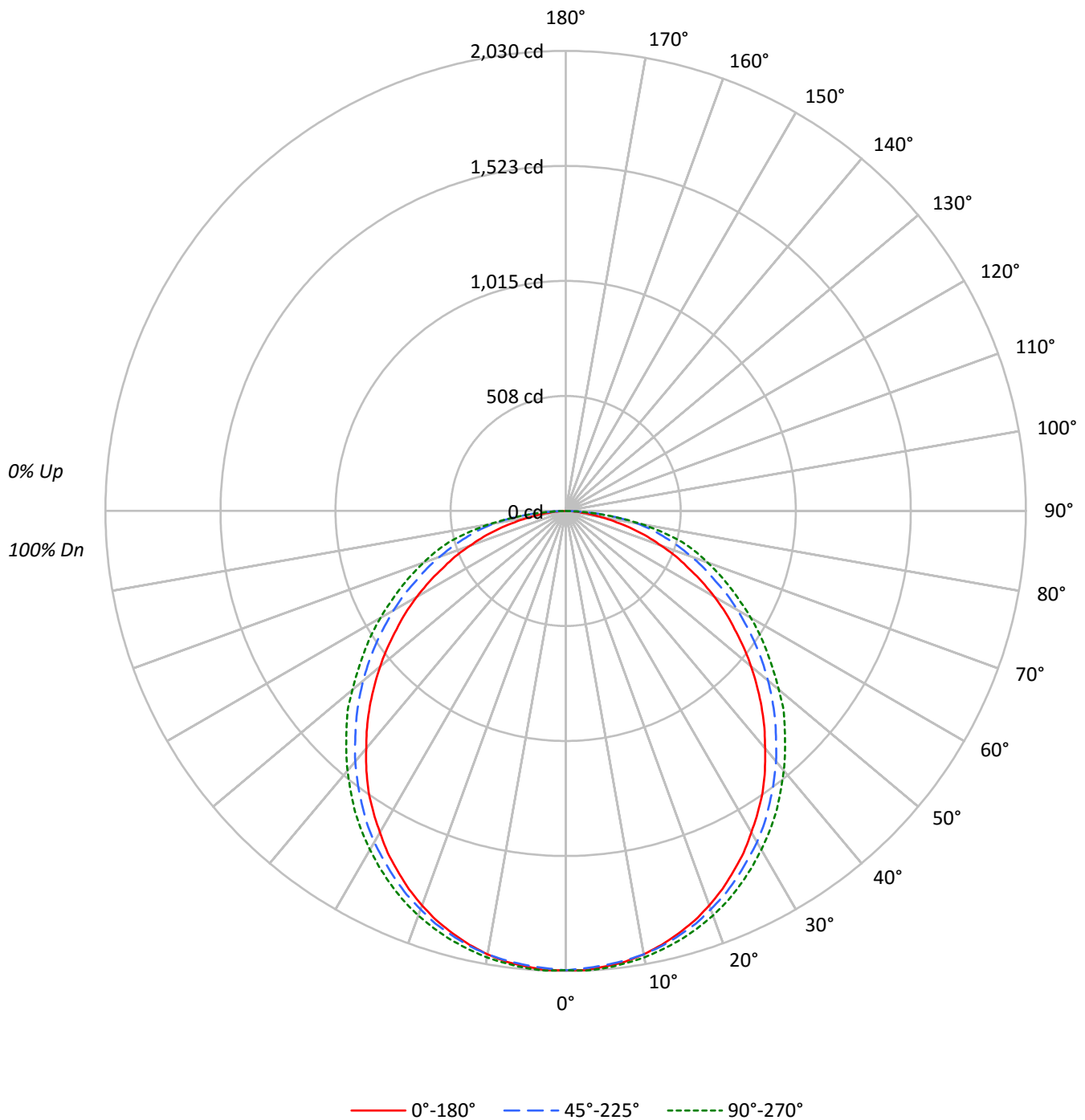
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2726	2726	2726
5°	2724	2717	2734
10°	2713	2713	2733
15°	2687	2700	2728
20°	2652	2678	2720
25°	2603	2652	2704
30°	2545	2622	2681
35°	2489	2579	2660
40°	2404	2536	2629
45°	2325	2486	2601
50°	2236	2439	2569
55°	2136	2394	2544
60°	2036	2357	2539
65°	1907	2316	2555
70°	1766	2328	2624
75°	1581	2372	2771
80°	1278	2513	2711
85°	962	2206	2149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.8	3.3
10°-20°	548.1	9.5
20°-30°	824.0	14.3
30°-40°	981.5	17.0
40°-50°	1004.5	17.4
50°-60°	904.3	15.7
60°-70°	710.2	12.3
70°-80°	460.9	8.0
80°-90°	142.5	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°	1563.9	27.1
0°-40°	2545.4	44.1
0°-60°	4454.3	77.2
0°-90°	5768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5768.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2026	2026	2026	2026	2026	
5°	2017	2021	2012	2023	2024	192
15°	1929	1935	1938	1955	1958	544
25°	1753	1768	1786	1816	1821	808
35°	1515	1534	1570	1609	1620	945
45°	1222	1251	1306	1356	1367	942
55°	911	951	1020	1074	1085	816
65°	599	645	727	788	802	596
75°	304	363	456	518	533	322
85°	62	115	143	139	139	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2026.3	2026.3	2026.3	2026.3	2026.3
2.5°	2028.2	2028.2	2019.0	2028.2	2030.0
5°	2017.2	2020.8	2011.7	2022.7	2024.5
7.5°	2006.2	2006.2	2000.7	2011.7	2013.5
10°	1986.0	1987.9	1986.0	1998.9	2000.7
12.5°	1960.4	1964.0	1965.9	1978.7	1980.5
15°	1929.2	1934.7	1938.4	1954.9	1958.5
17.5°	1894.4	1899.9	1909.1	1927.4	1931.1
20°	1852.3	1859.6	1870.6	1894.4	1899.9
22.5°	1806.5	1813.8	1832.1	1854.1	1863.3
25°	1753.3	1768.0	1786.3	1815.6	1821.1
27.5°	1700.2	1713.0	1736.9	1768.0	1775.3
30°	1637.9	1658.1	1687.4	1718.5	1725.9
32.5°	1577.5	1597.6	1632.4	1665.4	1674.6
35°	1515.2	1533.5	1570.1	1608.6	1619.6
37.5°	1443.7	1467.5	1507.8	1546.3	1557.3
40°	1368.6	1397.9	1443.7	1484.0	1496.9
42.5°	1297.1	1328.3	1374.1	1418.1	1432.7
45°	1222.0	1251.3	1306.3	1355.8	1366.8
47.5°	1145.1	1178.1	1236.7	1286.2	1304.5
50°	1068.1	1102.9	1165.2	1216.5	1227.5
52.5°	991.2	1027.8	1093.8	1148.7	1154.2
55°	910.6	950.9	1020.5	1073.6	1084.6
57.5°	837.3	872.1	947.2	1002.2	1015.0
60°	756.7	795.1	875.8	927.1	943.5
62.5°	679.7	720.0	804.3	855.6	870.3
65°	599.1	644.9	727.4	787.8	802.5
67.5°	529.5	573.5	661.4	720.0	734.7
70°	448.9	498.3	591.8	652.2	666.9
72.5°	379.3	430.6	524.0	582.6	604.6
75°	304.1	362.8	456.2	518.5	533.1
77.5°	230.8	298.6	393.9	441.5	441.5
80°	164.9	236.3	324.3	346.3	349.9
82.5°	108.1	177.7	240.0	238.2	238.2
85°	62.3	115.4	142.9	139.2	139.2
87.5°	23.8	47.6	51.3	51.3	49.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)