

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: P314510

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CP250-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: P314510
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 5941.0 lumens
Efficiency: N/A
Efficacy: 103.1 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

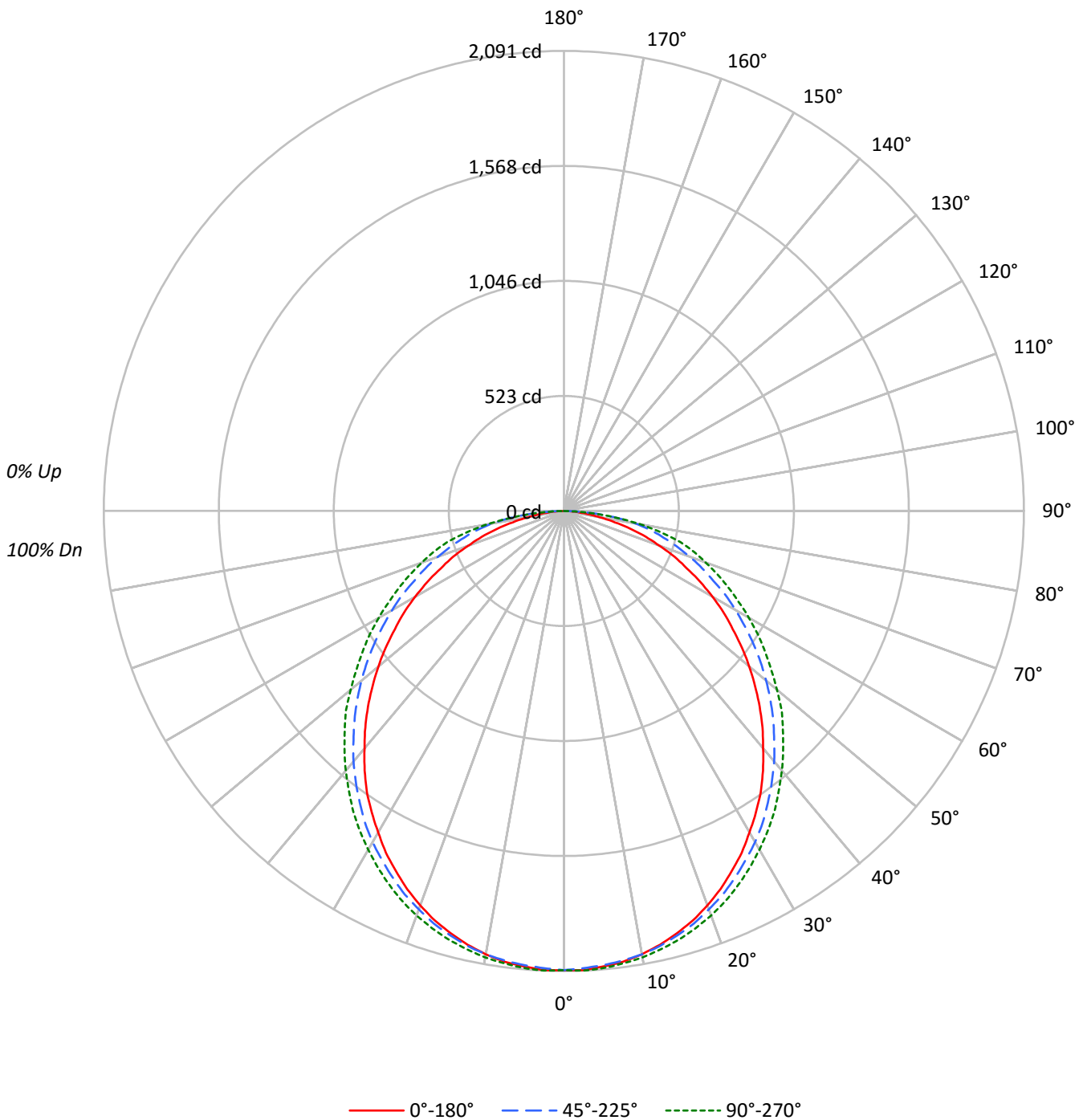
Input Watts (W): 57.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2808	2808	2808
5°	2806	2799	2816
10°	2795	2795	2815
15°	2768	2781	2810
20°	2732	2759	2802
25°	2681	2731	2785
30°	2621	2700	2762
35°	2563	2656	2740
40°	2476	2612	2708
45°	2395	2560	2679
50°	2303	2512	2646
55°	2200	2466	2621
60°	2097	2427	2615
65°	1965	2385	2631
70°	1819	2398	2702
75°	1629	2443	2855
80°	1316	2588	2793
85°	991	2272	2214



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.6	3.3
10°-20°	564.6	9.5
20°-30°	848.7	14.3
30°-40°	1010.9	17.0
40°-50°	1034.6	17.4
50°-60°	931.5	15.7
60°-70°	731.5	12.3
70°-80°	474.8	8.0
80°-90°	146.8	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°	1610.9	27.1
0°-40°	2621.8	44.1
0°-60°	4587.9	77.2
0°-90°	5941.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5941.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2087	2087	2087	2087	2087	
5°	2078	2082	2072	2083	2085	197
15°	1987	1993	1996	2014	2017	560
25°	1806	1821	1840	1870	1876	832
35°	1561	1580	1617	1657	1668	974
45°	1259	1289	1346	1396	1408	970
55°	938	979	1051	1106	1117	841
65°	617	664	749	811	826	614
75°	313	374	470	534	549	331
85°	64	119	147	143	143	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2087.1	2087.1	2087.1	2087.1	2087.1
2.5°	2089.0	2089.0	2079.6	2089.0	2090.9
5°	2077.7	2081.5	2072.0	2083.3	2085.2
7.5°	2066.4	2066.4	2060.7	2072.0	2073.9
10°	2045.6	2047.5	2045.6	2058.8	2060.7
12.5°	2019.2	2023.0	2024.8	2038.0	2039.9
15°	1987.1	1992.8	1996.5	2013.5	2017.3
17.5°	1951.2	1956.9	1966.3	1985.2	1989.0
20°	1907.8	1915.4	1926.7	1951.2	1956.9
22.5°	1860.7	1868.2	1887.1	1909.7	1919.2
25°	1805.9	1821.0	1839.9	1870.1	1875.8
27.5°	1751.2	1764.4	1789.0	1821.0	1828.6
30°	1687.1	1707.8	1738.0	1770.1	1777.6
32.5°	1624.8	1645.5	1681.4	1715.4	1724.8
35°	1560.6	1579.5	1617.2	1656.9	1668.2
37.5°	1487.0	1511.6	1553.1	1592.7	1604.0
40°	1409.6	1439.8	1487.0	1528.5	1541.7
42.5°	1336.1	1368.1	1415.3	1460.6	1475.7
45°	1258.7	1288.9	1345.5	1396.4	1407.8
47.5°	1179.4	1213.4	1273.8	1324.7	1343.6
50°	1100.2	1136.0	1200.2	1253.0	1264.3
52.5°	1020.9	1058.7	1126.6	1183.2	1188.9
55°	937.9	979.4	1051.1	1105.8	1117.2
57.5°	862.4	898.3	975.6	1032.2	1045.4
60°	779.4	819.0	902.0	954.9	971.8
62.5°	700.1	741.6	828.4	881.3	896.4
65°	617.1	664.3	749.2	811.4	826.5
67.5°	545.4	590.7	681.2	741.6	756.7
70°	462.3	513.3	609.5	671.8	686.9
72.5°	390.6	443.5	539.7	600.1	622.7
75°	313.3	373.6	469.9	534.0	549.1
77.5°	237.8	307.6	405.7	454.8	454.8
80°	169.8	243.4	334.0	356.7	360.4
82.5°	111.3	183.0	247.2	245.3	245.3
85°	64.2	118.9	147.2	143.4	143.4
87.5°	24.5	49.1	52.8	52.8	51.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)