

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: P311790

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-W2A-U-4500K**

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: P311790
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 6386.0 lumens
Efficiency: N/A
Efficacy: 108.6 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

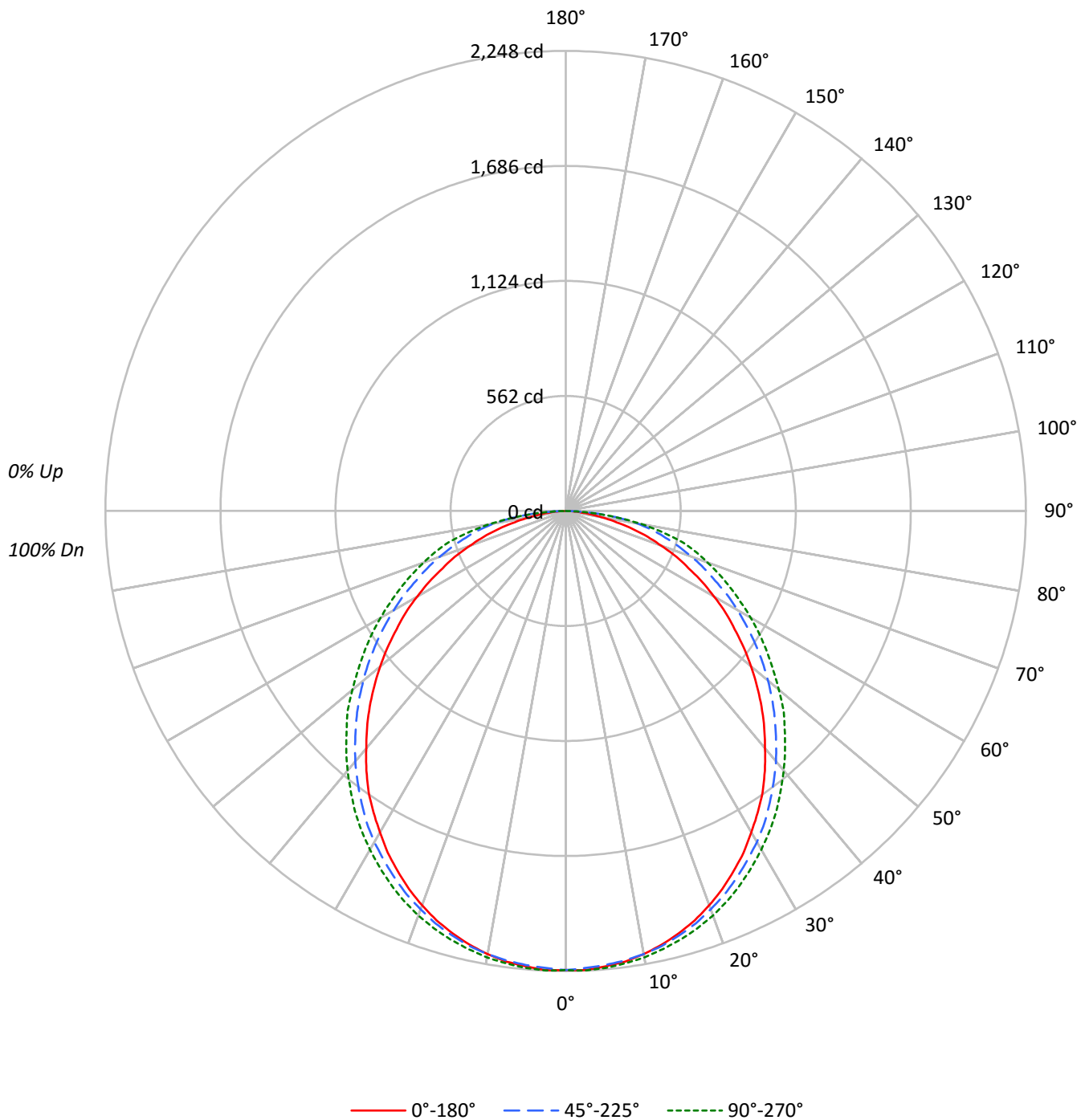
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3018	3018	3018
5°	3016	3008	3027
10°	3004	3004	3026
15°	2975	2989	3020
20°	2936	2965	3012
25°	2882	2936	2993
30°	2817	2903	2969
35°	2755	2855	2945
40°	2661	2807	2911
45°	2575	2752	2879
50°	2475	2700	2845
55°	2365	2650	2817
60°	2254	2609	2811
65°	2112	2564	2829
70°	1955	2578	2904
75°	1750	2626	3069
80°	1415	2782	3002
85°	1065	2442	2381



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.4	3.3
10°-20°	606.9	9.5
20°-30°	912.3	14.3
30°-40°	1086.7	17.0
40°-50°	1112.1	17.4
50°-60°	1001.2	15.7
60°-70°	786.3	12.3
70°-80°	510.3	8.0
80°-90°	157.8	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°	1731.5	27.1
0°-40°	2818.2	44.1
0°-60°	4931.5	77.2
0°-90°	6386.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6386.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2243	2243	2243	2243	2243	
5°	2233	2237	2227	2239	2241	212
15°	2136	2142	2146	2164	2168	602
25°	1941	1957	1978	2010	2016	894
35°	1678	1698	1738	1781	1793	1047
45°	1353	1385	1446	1501	1513	1043
55°	1008	1053	1130	1189	1201	904
65°	663	714	805	872	888	660
75°	337	402	505	574	590	356
85°	69	128	158	154	154	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2243.4	2243.4	2243.4	2243.4	2243.4
2.5°	2245.5	2245.5	2235.3	2245.5	2247.5
5°	2233.3	2237.4	2227.2	2239.4	2241.4
7.5°	2221.1	2221.1	2215.0	2227.2	2229.2
10°	2198.8	2200.8	2198.8	2213.0	2215.0
12.5°	2170.4	2174.5	2176.5	2190.7	2192.7
15°	2135.9	2142.0	2146.1	2164.3	2168.4
17.5°	2097.4	2103.5	2113.6	2133.9	2138.0
20°	2050.7	2058.9	2071.0	2097.4	2103.5
22.5°	2000.0	2008.1	2028.4	2052.8	2062.9
25°	1941.2	1957.4	1977.7	2010.2	2016.3
27.5°	1882.4	1896.6	1923.0	1957.4	1965.5
30°	1813.4	1835.7	1868.2	1902.7	1910.8
32.5°	1746.5	1768.8	1807.3	1843.8	1854.0
35°	1677.5	1697.8	1738.4	1781.0	1793.1
37.5°	1598.4	1624.8	1669.4	1712.0	1724.2
40°	1515.2	1547.7	1598.4	1643.0	1657.2
42.5°	1436.1	1470.6	1521.3	1570.0	1586.2
45°	1353.0	1385.4	1446.3	1501.0	1513.2
47.5°	1267.8	1304.3	1369.2	1424.0	1444.2
50°	1182.6	1221.1	1290.1	1346.9	1359.0
52.5°	1097.4	1137.9	1211.0	1271.8	1277.9
55°	1008.1	1052.8	1129.8	1188.7	1200.8
57.5°	927.0	965.5	1048.7	1109.6	1123.8
60°	837.7	880.3	969.6	1026.4	1044.6
62.5°	752.5	797.2	890.5	947.3	963.5
65°	663.3	714.0	805.3	872.2	888.5
67.5°	586.2	634.9	732.3	797.2	813.4
70°	497.0	551.7	655.2	722.1	738.3
72.5°	419.9	476.7	580.1	645.0	669.4
75°	336.7	401.6	505.1	574.0	590.3
77.5°	255.6	330.6	436.1	488.9	488.9
80°	182.6	261.7	359.0	383.4	387.4
82.5°	119.7	196.8	265.7	263.7	263.7
85°	69.0	127.8	158.2	154.2	154.2
87.5°	26.4	52.7	56.8	56.8	54.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)