

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: P314511

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CP250-W2A-U-3500K**

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: P314511
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 6286.0 lumens
Efficiency: N/A
Efficacy: 108.9 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

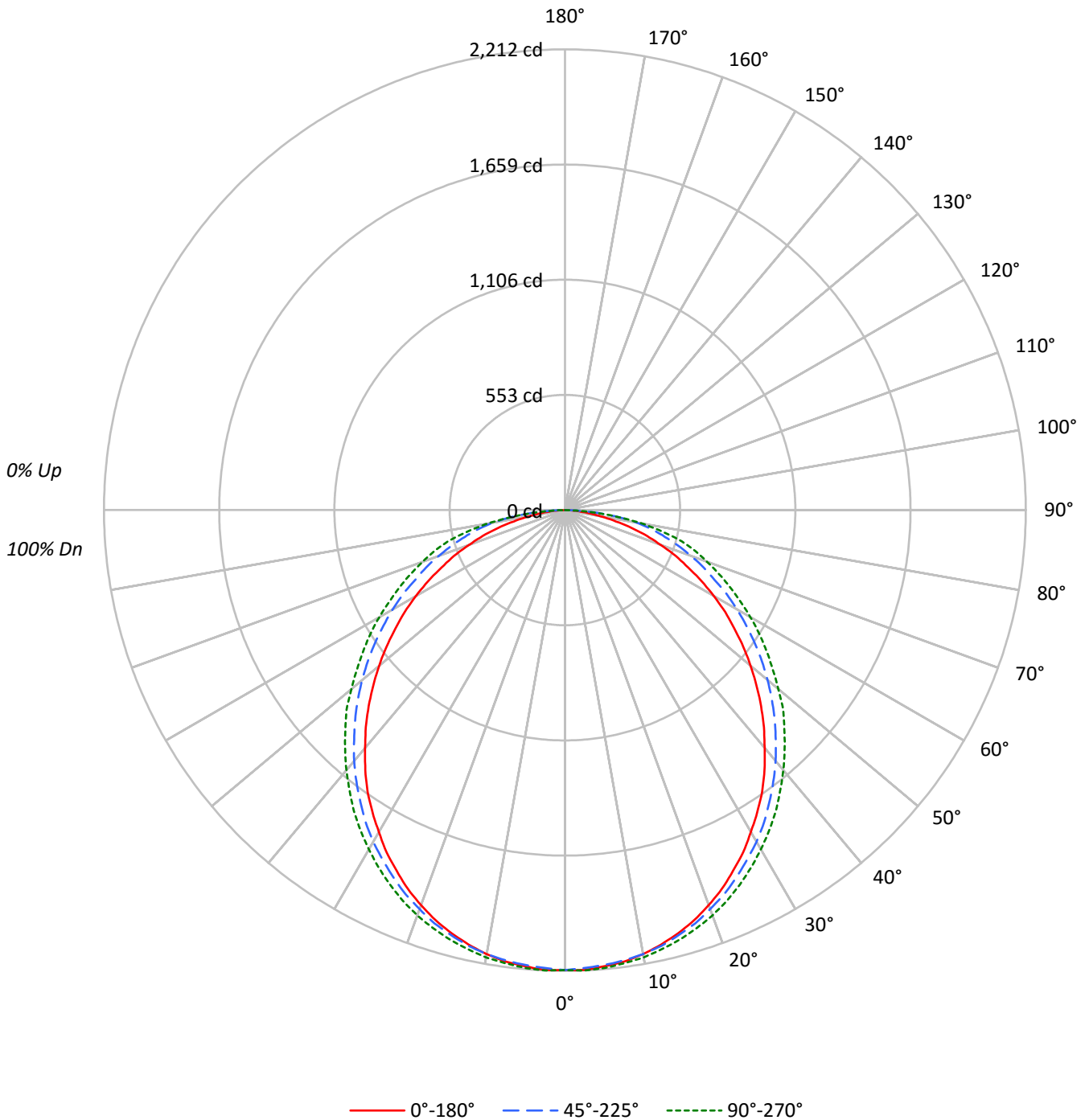
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-70HE-UNV-L83050-S-CP250-W2A-U-3500K

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°	2971	2971	2971
5°	2969	2961	2980
10°	2957	2957	2979
15°	2929	2943	2973
20°	2890	2919	2965
25°	2837	2890	2946
30°	2773	2857	2922
35°	2712	2811	2899
40°	2620	2764	2865
45°	2534	2709	2834
50°	2437	2658	2800
55°	2328	2609	2773
60°	2219	2568	2767
65°	2079	2524	2784
70°	1924	2537	2859
75°	1723	2585	3020
80°	1392	2738	2955
85°	1048	2404	2342



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.1	3.3
10°-20°	597.4	9.5
20°-30°	898.0	14.3
30°-40°	1069.6	17.0
40°-50°	1094.7	17.4
50°-60°	985.6	15.7
60°-70°	774.0	12.3
70°-80°	502.3	8.0
80°-90°	155.4	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°	1704.4	27.1
0°-40°	2774.0	44.1
0°-60°	4854.3	77.2
0°-90°	6286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2208	2208	2208	2208	2208	
5°	2198	2202	2192	2204	2206	209
15°	2102	2108	2112	2130	2134	593
25°	1911	1927	1947	1979	1985	880
35°	1651	1671	1711	1753	1765	1030
45°	1332	1364	1424	1478	1490	1027
55°	992	1036	1112	1170	1182	890
65°	653	703	793	859	874	650
75°	331	395	497	565	581	351
85°	68	126	156	152	152	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2208.3	2208.3	2208.3	2208.3	2208.3
2.5°	2210.3	2210.3	2200.3	2210.3	2212.3
5°	2198.3	2202.3	2192.3	2204.3	2206.3
7.5°	2186.3	2186.3	2180.4	2192.3	2194.3
10°	2164.4	2166.4	2164.4	2178.4	2180.4
12.5°	2136.4	2140.4	2142.4	2156.4	2158.4
15°	2102.5	2108.5	2112.5	2130.4	2134.4
17.5°	2064.6	2070.5	2080.5	2100.5	2104.5
20°	2018.6	2026.6	2038.6	2064.6	2070.5
22.5°	1968.7	1976.7	1996.7	2020.6	2030.6
25°	1910.8	1926.8	1946.7	1978.7	1984.7
27.5°	1852.9	1866.9	1892.8	1926.8	1934.8
30°	1785.0	1807.0	1838.9	1872.9	1880.9
32.5°	1719.1	1741.1	1779.0	1815.0	1825.0
35°	1651.2	1671.2	1711.1	1753.1	1765.1
37.5°	1573.4	1599.3	1643.3	1685.2	1697.2
40°	1491.5	1523.5	1573.4	1617.3	1631.3
42.5°	1413.6	1447.6	1497.5	1545.4	1561.4
45°	1331.8	1363.7	1423.6	1477.5	1489.5
47.5°	1247.9	1283.9	1347.7	1401.7	1421.6
50°	1164.1	1202.0	1269.9	1325.8	1337.8
52.5°	1080.2	1120.1	1192.0	1251.9	1257.9
55°	992.3	1036.3	1112.1	1170.0	1182.0
57.5°	912.5	950.4	1032.3	1092.2	1106.2
60°	824.6	866.6	954.4	1010.3	1028.3
62.5°	740.8	784.7	876.5	932.4	948.4
65°	652.9	702.8	792.7	858.6	874.5
67.5°	577.0	625.0	720.8	784.7	800.7
70°	489.2	543.1	644.9	710.8	726.8
72.5°	413.3	469.2	571.0	634.9	658.9
75°	331.4	395.3	497.2	565.1	581.0
77.5°	251.6	325.5	429.3	481.2	481.2
80°	179.7	257.6	353.4	377.4	381.4
82.5°	117.8	193.7	261.6	259.6	259.6
85°	67.9	125.8	155.7	151.7	151.7
87.5°	26.0	51.9	55.9	55.9	53.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)