

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: P314512

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CP250-W2A-U-4000K**

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: P314512
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 6601.0 lumens
Efficiency: N/A
Efficacy: 111.9 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

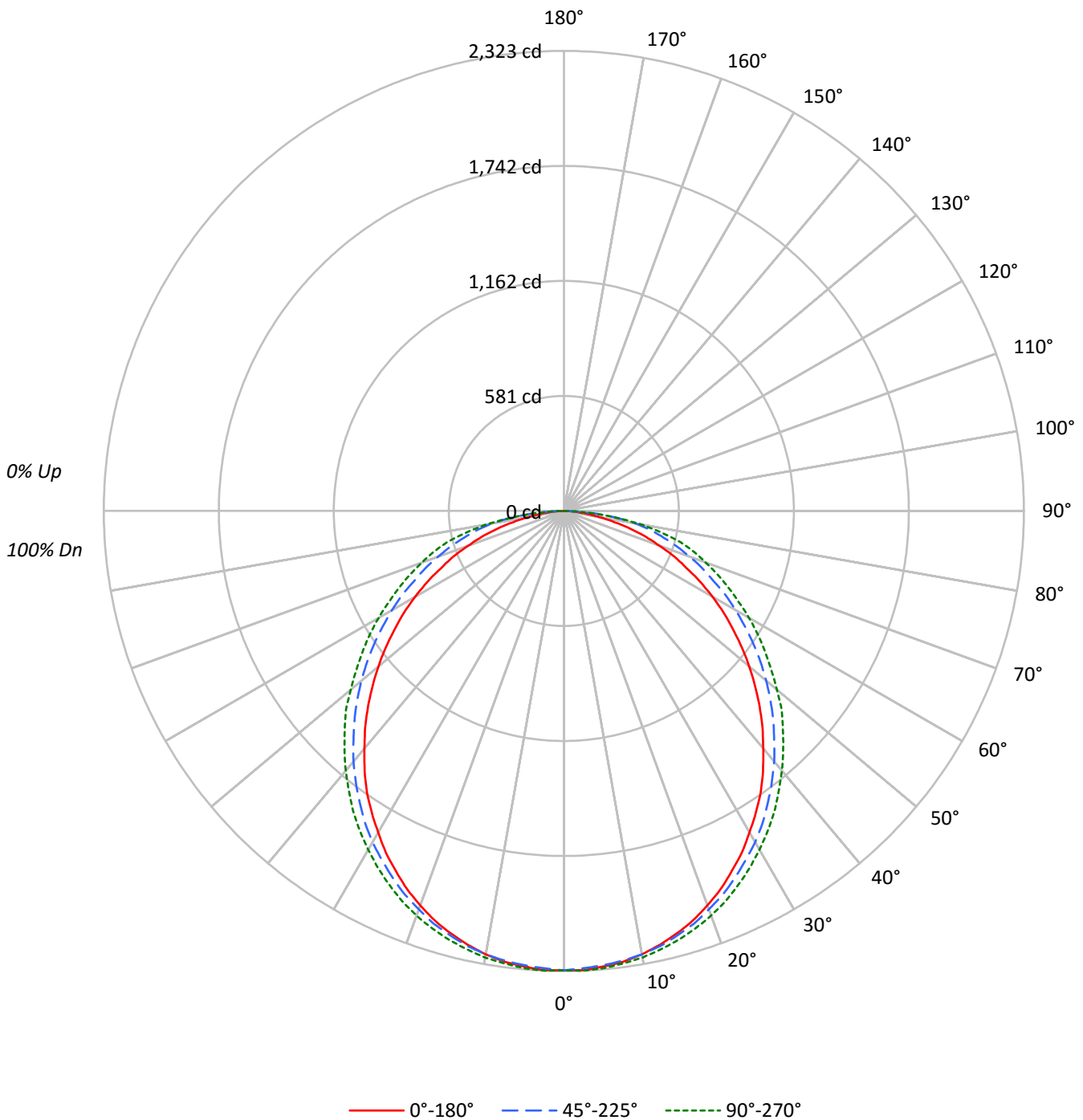
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3120	3120	3120
5°	3118	3109	3129
10°	3105	3105	3128
15°	3075	3090	3122
20°	3035	3065	3113
25°	2979	3035	3094
30°	2912	3000	3069
35°	2848	2951	3044
40°	2751	2902	3009
45°	2661	2845	2976
50°	2559	2791	2941
55°	2445	2740	2912
60°	2330	2697	2906
65°	2183	2650	2924
70°	2021	2664	3002
75°	1810	2714	3172
80°	1462	2875	3103
85°	1101	2524	2461



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.5	3.3
10°-20°	627.3	9.5
20°-30°	943.0	14.3
30°-40°	1123.2	17.0
40°-50°	1149.6	17.4
50°-60°	1034.9	15.7
60°-70°	812.8	12.3
70°-80°	527.5	8.0
80°-90°	163.2	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°	1789.8	27.1
0°-40°	2913.0	44.1
0°-60°	5097.6	77.2
0°-90°	6601.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6601.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2319	2319	2319	2319	2319	
5°	2308	2313	2302	2315	2317	219
15°	2208	2214	2218	2237	2241	623
25°	2007	2023	2044	2078	2084	924
35°	1734	1755	1797	1841	1854	1082
45°	1398	1432	1495	1552	1564	1078
55°	1042	1088	1168	1229	1241	934
65°	686	738	832	902	918	683
75°	348	415	522	593	610	368
85°	71	132	164	159	159	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2319.0	2319.0	2319.0	2319.0	2319.0
2.5°	2321.1	2321.1	2310.6	2321.1	2323.2
5°	2308.5	2312.7	2302.2	2314.8	2316.9
7.5°	2295.9	2295.9	2289.6	2302.2	2304.3
10°	2272.8	2274.9	2272.8	2287.5	2289.6
12.5°	2243.5	2247.7	2249.8	2264.5	2266.6
15°	2207.8	2214.1	2218.3	2237.2	2241.4
17.5°	2168.0	2174.3	2184.8	2205.8	2209.9
20°	2119.8	2128.2	2140.8	2168.0	2174.3
22.5°	2067.4	2075.8	2096.7	2121.9	2132.4
25°	2006.6	2023.3	2044.3	2077.9	2084.1
27.5°	1945.8	1960.4	1987.7	2023.3	2031.7
30°	1874.5	1897.5	1931.1	1966.7	1975.1
32.5°	1805.3	1828.3	1868.2	1905.9	1916.4
35°	1734.0	1755.0	1796.9	1840.9	1853.5
37.5°	1652.2	1679.5	1725.6	1769.6	1782.2
40°	1566.3	1599.8	1652.2	1698.3	1713.0
42.5°	1484.5	1520.1	1572.5	1622.9	1639.6
45°	1398.5	1432.1	1495.0	1551.6	1564.2
47.5°	1310.5	1348.2	1415.3	1471.9	1492.9
50°	1222.4	1262.2	1333.5	1392.2	1404.8
52.5°	1134.3	1176.3	1251.7	1314.6	1320.9
55°	1042.1	1088.2	1167.9	1228.7	1241.3
57.5°	958.2	998.0	1084.0	1146.9	1161.6
60°	865.9	910.0	1002.2	1060.9	1079.8
62.5°	777.9	824.0	920.5	979.2	995.9
65°	685.6	738.0	832.4	901.6	918.4
67.5°	606.0	656.3	756.9	824.0	840.8
70°	513.7	570.3	677.2	746.4	763.2
72.5°	434.0	492.7	599.7	666.8	691.9
75°	348.1	415.2	522.1	593.4	610.1
77.5°	264.2	341.8	450.8	505.3	505.3
80°	188.7	270.5	371.1	396.3	400.5
82.5°	123.7	203.4	274.7	272.6	272.6
85°	71.3	132.1	163.5	159.4	159.4
87.5°	27.3	54.5	58.7	58.7	56.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)