

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: P311759

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CA125-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: P311759
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-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 6193.0 lumens
Efficiency: N/A
Efficacy: 107.3 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

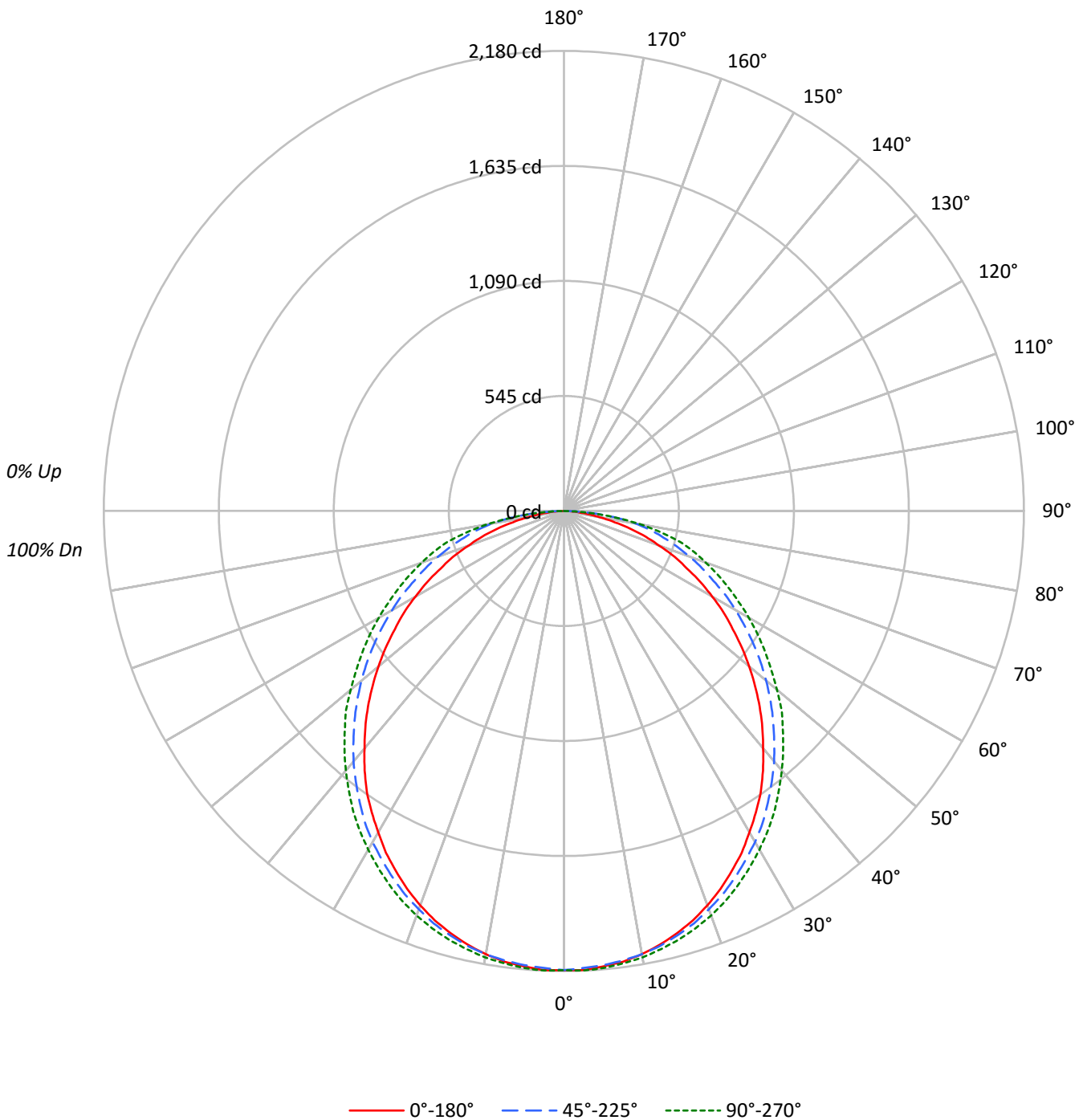
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2927	2927	2927
5°	2925	2917	2936
10°	2913	2913	2935
15°	2885	2899	2929
20°	2848	2876	2921
25°	2795	2847	2903
30°	2732	2815	2879
35°	2672	2769	2856
40°	2581	2723	2823
45°	2497	2669	2792
50°	2400	2619	2759
55°	2293	2570	2732
60°	2186	2530	2726
65°	2048	2486	2743
70°	1896	2500	2817
75°	1697	2546	2976
80°	1371	2698	2911
85°	1033	2368	2308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.0	3.3
10°-20°	588.5	9.5
20°-30°	884.7	14.3
30°-40°	1053.8	17.0
40°-50°	1078.5	17.4
50°-60°	971.0	15.7
60°-70°	762.5	12.3
70°-80°	494.9	8.0
80°-90°	153.1	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°	1679.2	27.1
0°-40°	2733.0	44.1
0°-60°	4782.5	77.2
0°-90°	6193.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6193.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2176	2176	2176	2176	2176	
5°	2166	2170	2160	2172	2174	206
15°	2071	2077	2081	2099	2103	584
25°	1882	1898	1918	1949	1955	867
35°	1627	1646	1686	1727	1739	1015
45°	1312	1344	1403	1456	1468	1012
55°	978	1021	1096	1153	1164	876
65°	643	692	781	846	862	640
75°	326	390	490	557	572	346
85°	67	124	153	150	150	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2175.6	2175.6	2175.6	2175.6	2175.6
2.5°	2177.6	2177.6	2167.8	2177.6	2179.6
5°	2165.8	2169.7	2159.9	2171.7	2173.7
7.5°	2154.0	2154.0	2148.1	2159.9	2161.9
10°	2132.4	2134.3	2132.4	2146.1	2148.1
12.5°	2104.8	2108.8	2110.7	2124.5	2126.5
15°	2071.4	2077.3	2081.2	2098.9	2102.9
17.5°	2034.0	2039.9	2049.7	2069.4	2073.4
20°	1988.8	1996.6	2008.4	2034.0	2039.9
22.5°	1939.6	1947.5	1967.1	1990.7	2000.6
25°	1882.5	1898.3	1917.9	1949.4	1955.3
27.5°	1825.5	1839.3	1864.8	1898.3	1906.1
30°	1758.6	1780.2	1811.7	1845.2	1853.0
32.5°	1693.7	1715.3	1752.7	1788.1	1798.0
35°	1626.8	1646.5	1685.8	1727.1	1738.9
37.5°	1550.1	1575.7	1618.9	1660.3	1672.1
40°	1469.4	1500.9	1550.1	1593.4	1607.1
42.5°	1392.7	1426.2	1475.3	1522.6	1538.3
45°	1312.1	1343.5	1402.6	1455.7	1467.5
47.5°	1229.5	1264.9	1327.8	1380.9	1400.6
50°	1146.8	1184.2	1251.1	1306.2	1318.0
52.5°	1064.2	1103.6	1174.4	1233.4	1239.3
55°	977.7	1020.9	1095.7	1152.7	1164.5
57.5°	899.0	936.4	1017.0	1076.0	1089.8
60°	812.4	853.7	940.3	995.4	1013.1
62.5°	729.8	773.1	863.6	918.6	934.4
65°	643.3	692.4	780.9	845.9	861.6
67.5°	568.5	615.7	710.1	773.1	788.8
70°	481.9	535.1	635.4	700.3	716.0
72.5°	407.2	462.3	562.6	625.5	649.2
75°	326.5	389.5	489.8	556.7	572.4
77.5°	247.9	320.6	422.9	474.1	474.1
80°	177.0	253.8	348.2	371.8	375.7
82.5°	116.1	190.8	257.7	255.7	255.7
85°	66.9	123.9	153.4	149.5	149.5
87.5°	25.6	51.1	55.1	55.1	53.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)